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and research of John Greenewald, Jr., creator of:

# The Black Vault

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responsible for the declassification of hundreds of thousands of pages  
released by the U.S. Government & Military.

**Discover the Truth** at: **<http://www.theblackvault.com>**

**Lee, Jennifer M. EOP/OSTP**

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**From:** FN-OSTP-OSTPFOIA  
**Sent:** Wednesday, June 29, 2016 12:16 PM  
**To:** 'John Greenewald'; FN-OSTP-OSTPFOIA  
**Subject:** RE: FOIA REQUEST

Thank you, John. I confirm receipt of your email below. We will print the records and mail the production this week to the CA address you provide below. It may take about a week for you to receive it, depending on the mail service. Thank you.

Regards,

Jennifer Lee  
Office of Science and Technology Policy

-----Original Message-----

**From:** John Greenewald [mailto:john@greenewald.com]  
**Sent:** Wednesday, June 29, 2016 12:14 PM  
**To:** FN-OSTP-OSTPFOIA <OSTPFOIA@ostp.eop.gov>  
**Subject:** Re: FOIA REQUEST

I am sorry I must have missed your reply. Yes, I'd like a copy of those records as it would be appreciated.

John Greenewald  
[REDACTED]  
[REDACTED]

Thank you!

Sent from my iPhone

> On Jun 29, 2016, at 8:30 AM, FN-OSTP-OSTPFOIA <OSTPFOIA@ostp.eop.gov> wrote:

>

> Dear Mr. Greenewald,

>

> Thank you for your email. Attached is a copy of the correspondence OSTP has in its records with respect to your FOIA request below. After receiving your reply on April 15, 2014, OSTP wrote back to you on April 16, 2014, seeking additional information to perfect your FOIA request. Because we did not receive a reply from you to our April 16 email, we administratively closed your FOIA request on May 30, 2014, and sent you a letter to notify you that we had closed your request. The attached PDF contains the May 30 letter and OSTP's email to you on April 16.

>

> OSTP recently completed processing records related to Google in response to a separate FOIA request from another requester. As a courtesy, I can send you a copy of those records, which total 1500 pages. If you would like to receive a copy of those records, please confirm your mailing address. Thank you.

>

> Regards,

>

> Jennifer Lee

> Office of Science and Technology Policy



>  
>  
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>  
> -----Original Message-----  
> From: John Greenewald [mailto:john@greenewald.com]  
> Sent: Sunday, June 26, 2016 4:37 PM  
> To: FN-OSTP-OSTPFOIA <OSTPFOIA@ostp.eop.gov>  
> Subject: FW: FOIA REQUEST  
>  
> By my records, I do not have a response to the below FOIA request I did, and clarified/amdended on April 15, 2014.  
Can I get a status of this? I never received a FOIA Case Number, but my communication is below.  
>  
>  
>  
> Sincerely,  
>  
>  
>  
> John Greenewald, Jr.  
>  
> The Black Vault  
>> ><http://www.theblackvault.com><<  
>  
> Government Secrets  
>> ><http://www.governmentsecrets.com><<  
>  
> Phone: (805) 32-VAULT  
>  
>  
>  
> From: John Greenewald, Jr. [mailto:john@greenewald.com]  
> Sent: Tuesday, April 15, 2014 3:45 PM  
> To: 'FN-OSTP-OSTPFOIA'  
> Subject: RE: FOIA REQUEST  
>  
>  
>  
> Dear Ms. Lee,  
>  
>  
> Thank you for your response.  
>  
>  
>  
> I think to clarify, I am interested in direct communication with the corporation Google, Inc. Not just an email search of  
Google Alerts etc.  
>  
>  
>  
> Will this amendment satisfy your request?  
>

> I look forward to hearing from you..

>

>

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> ---

> Sincerely,

>

>

>

> John Greenewald, Jr.

>

> The Black Vault

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>> ><http://www.theblackvault.com><<

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> Social Media:

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> [ Become a Fan on Facebook | The Black Vault Group on Facebook | YouTube | Twitter | Scribd ]

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> From: FN-OSTP-OSTPFOIA [mailto:[OSTPFOIA@ostp.eop.gov](mailto:OSTPFOIA@ostp.eop.gov)]

> Sent: Monday, April 14, 2014 3:24 PM

> To: John Greenewald, Jr.

> Subject: RE: FOIA REQUEST

>

>

>

> Dear Mr. Greenewald,

>

>

>

> Thank you for contacting the Office of Science and Technology Policy. I am writing in response to the FOIA request you submitted on April 10, 2014. You requested "a copy of all communications, electronic or otherwise, between the Executive Office of the President (EOP) Office of Science And Technology Policy and Google, Inc., from January 1, 2014 to date." Within the stated time period, a search for "Google.com" returns a high number of hits that we suspect are not what interest you, such as Google News Alerts. The high number of false hits indicates that this would be an unduly burdensome search for the agency.

>

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>

> Accordingly, OSTP is providing you with the opportunity to narrow your requested search to make it a reasonable search under FOIA. One approach for modifying your requested search would be for you to identify particular OSTP policies related to Google that concern or interest you. Before you do that, please consider looking at the public comments that are available for most "requests for information" and/or draft regulations. Much of that information is available online on agency websites and/or the Federal Register and, as such, would not be produced in response to a FOIA request because it is already readily accessible to the public. If you would like to narrow your search, please

contact us with the terms of your modified request. Please note that OSTP regards your current FOIA request as unperfected, pending clarification from you.

>  
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>  
> Regards,

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>  
> Jennifer Lee

>  
> Office of Science and Technology Policy

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>  
> From: John Greenewald, Jr. [mailto:john@greenewald.com]  
> Sent: Thursday, April 10, 2014 11:15 PM  
> To: FN-OSTP-OSTPFOIA  
> Subject: FOIA REQUEST

>  
>  
>  
> To whom it may concern,

>  
>  
>  
> This is a non-commercial request made under the provisions of the Freedom of Information Act 5 U.S.C. S 552. My FOIA requester status as a "representative of the news media." I am a freelance television producer often working on documentaries related to my FOIA requests, my work is commonly featured throughout major news organizations, and I freelance writer for news sites as well. Examples can be given, if needed.

>  
>  
>  
> I prefer electronic delivery of the requested material either via email to john@greenewald.com  
<mailto:john@greenewald.com> or via CD-ROM or DVD via postal mail. Please contact me should this FOIA request should incur a charge.

>  
>  
>  
> I respectfully request a copy of all communications, electronic or otherwise, between the Executive Office of the President (EOP) Office of Science And Technology Policy and Google, Inc., from January 1, 2014 to date.

>  
>  
>  
> Thank you so much for your time, and I am very much looking forward to your response.

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>  
> Sincerely,  
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>  
>  
> John Greenewald, Jr.  
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> Sincerely,  
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> John Greenewald, Jr.  
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> The Black Vault  
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>  
> <OSTP FOIA 14-54.pdf>

**From:** Edelman, R. David  
**Sent:** Friday, November 02, 2012 5:35 PM  
**To:** Johanna Shelton  
**Subject:** RE: Rosetta Stone Agrees to Drop Google Trademark Suit

Thanks, Johanna. Good to know, and appreciate the heads -up.

Also, major developments (as you obviously saw) last Friday on DNT. Could we have a follow-up conversation late next week? Do you and the MV team have any time on Wednesday or Thursday?

Cheers,  
-David

<><><><><><><><><><>

**R. David Edelman**  
Senior Advisor for Internet Policy  
National Economic Council | The White House  
ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Wednesday, October 31, 2012 1:34 PM  
**To:** Edelman, R. David  
**Subject:** Rosetta Stone Agrees to Drop Google Trademark Suit

David -

I wanted to make you aware of this development. Please let me know if you have any questions.

- Johanna

Businessweek story here

**Bloomberg News**

## Rosetta Stone Agrees to Drop Google Trademark Suit

By Don Jeffrey on October 31, 2012

Rosetta Stone Inc. (RST), a maker of language-learning software, agreed to drop a lawsuit it brought against Google Inc. (GOOG) for selling its trademarks to other companies for search-engine advertising.

The companies agreed that all claims in the infringement case will be dismissed, according to a filing today in federal court in Alexandria, Virginia. No terms were given with the stipulation of voluntary dismissal. Rosetta Stone had claimed the keywords were being sold to competitors and counterfeiters.

U.S. District Judge Gerald Bruce Lee ruled in 2010 that the sale of Rosetta's trademarked phrases as keywords wouldn't confuse consumers. The U.S. Court of Appeals for the Fourth Circuit in April overturned part of that ruling and sent the case back to the lower court.

"Google and Rosetta Stone have agreed to dismiss the three-year-old trademark infringement lawsuit between them and to meaningfully collaborate to combat online ads for counterfeit goods and prevent the misuse and abuse of trademarks on the Internet," the companies said in a joint e-mailed statement.

Google, which runs the world's largest search engine, sells advertisers the rights to use certain words or phrases as keywords for paid ads on its site. The so-called sponsored links direct users to the advertisers' websites.

## Keyword Bids

Advertisers bid what they'll pay Google for each click on an ad triggered by the keyword. The highest bid and other factors determine whether the keywords can be used. Mountain View, California-based Google derives most of its revenue from ad sales.

Rosetta, based in Arlington, Virginia, had said in its appellate brief that it was "entitled to its day in court before a properly instructed jury."

Google said in its brief that "each time Rosetta Stone informed Google that a particular advertiser was selling counterfeit Rosetta Stone products, Google promptly took action including removing the advertisement."

Google rose \$3.24 to \$678.39 at 1:04 p.m. New York time in Nasdaq Stock Market trading (GOOG). Rosetta Stone declined (RST) 3 cents to \$11.42 on the New York Stock Exchange.

The case is Rosetta Stone v. Google, 09-00736, U.S. District Court, Eastern District of Virginia (Alexandria). The appeal is Rosetta Stone v. Google, 10-2007, U.S. Court of Appeals for the Fourth Circuit (Richmond, Virginia).

To contact the reporter on this story: Don Jeffrey in New York at [djeffrey1@bloomberg.net](mailto:djeffrey1@bloomberg.net)

To contact the editor responsible for this story: Michael Hytha  
[mhytha@bloomberg.net](mailto:mhytha@bloomberg.net)

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

**From:** Edelman, R. David  
**Sent:** Friday, November 02, 2012 5:48 PM  
**To:** Johanna Shelton  
**Subject:** RE: Rosetta Stone Agrees to Drop Google Trademark Suit

Thanks! Talk soon.

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Friday, November 02, 2012 5:47 PM  
**To:** Edelman, R. David  
**Subject:** RE: Rosetta Stone Agrees to Drop Google Trademark Suit

Sure - I will check schedules

On Nov 2, 2012 5:35 PM, "Edelman, R. David" (b) (6) wrote:

Thanks, Johanna. Good to know, and appreciate the heads-up.

Also, major developments (as you obviously saw) last Friday on DNT. Could we have a follow-up conversation late next week? Do you and the MV team have any time on Wednesday or Thursday?

Cheers,

-David

<><><><><><><><><>

R. David Edelman

Senior Advisor for Internet Policy

National Economic Council | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)



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**Subject:** Rosetta Stone Agrees to Drop Google Trademark Suit

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Bloomberg News

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online ads for counterfeit goods and prevent the misuse and abuse of trademarks on the Internet,” the companies said in a joint e-mailed statement.

Google, which runs the world’s largest search engine, sells advertisers the rights to use certain words or phrases as keywords for paid ads on its site. The so-called sponsored links direct users to the advertisers’ websites.

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To contact the reporter on this story: Don Jeffrey in New York at [djeffrey1@bloomberg.net](mailto:djeffrey1@bloomberg.net)

To contact the editor responsible for this story: Michael Hytha  
[mhytha@bloomberg.net](mailto:mhytha@bloomberg.net)

Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

**From:** Edelman, R. David  
**Sent:** Friday, November 09, 2012 1:09 PM  
**To:** Johanna Shelton (b) (6)  
**Subject:** Chat at 3?

Johanna,

Got your message – are you free at 3pm to chat?

-rD

<><><><><><><><><>

R. David Edelman

Senior Advisor for Internet Policy | The White House

ph: (202 (b) (6) | bb: (202 (b) (6) (b) (6)



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**From:** Edelman, R. David  
**Sent:** Friday, November 09, 2012 4:01 PM  
**To:** Johanna Shelton  
**Subject:** RE: Online Video Discussion with SVP of YouTube

Johanna,

Fantastic. I'm also coordinating with Vivian and Todd, so we'll want to talk among other things about the great work we've done together to combat child exploitation. I'll get back to you with the full list of attendees.

Cheers,  
-rD

**From:** Johanna Shelton (b) (6)(b) (6)  
**Sent:** Friday, November 09, 2012 2:40 PM  
**To:** Edelman, R. David  
**Subject:** Re: Online Video Discussion with SVP of YouTube

here's my understanding of the lineup:

2pm Tues 11/13 - patent conversation with you, Quentin, me, Google counsel Matthew Bye (i will send bio in another email)

3pm Tues 11/13 - YouTube CEO discussion with Salar Kamangar (other Googlers will include me, George Ivanov, Abbi Tatton)

Bio for Salar:

Salar Kamangar  
SVP of YouTube and Video  
Google Inc.

Salar Kamangar is in charge of running day-to-day operations at YouTube.

Previously, he was Vice President of Product Management for Google's advertising and monetization products, including the AdWords program, which he defined with a small engineering team. Today, AdWords is the foundation for Google's syndication on partner sites and serves as the engine that drives Google's revenue. Prior to that, Salar created the company's first business plan and was responsible for its legal and finance functions.

Kamangar, born in Tehran-Iran in 1977, earned his Bachelor's degree in Biological Sciences with honors from Stanford University.

On Fri, Nov 9, 2012 at 12:40 PM, Johanna Shelton (b) (6) wrote:  
see below - want to chat quickly today. let me know when you are available to talk this afternoon. thanks!

----- Forwarded message -----

**From:** George Ivanov (b) (6)  
**Date:** Fri, Nov 9, 2012 at 12:35 PM  
**Subject:** Online Video Discussion with SVP of YouTube  
**To:** (b) (6)

Cc: "Graubard, Vivian" (b) (6) Johanna Shelton (b) (6) Abbi Tatton  
(b) (6)

Hi Todd,

I hope you are doing well. We were wondering if you and your colleagues might have some time next Tuesday (11/13) to meet with Salar Kamangar, Google's Senior Vice President of YouTube to discuss the rapid growth of the YouTube video platform globally and the developer/content tools that it currently provides to individuals, organizations, and businesses.

Sincerely,  
George

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice  
(b) (6)

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice  
(b) (6)





Best,

Vivian

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 12:36 PM  
**To:** Park, Todd  
**Cc:** Graubard, Vivian; Johanna Shelton; Abbi Tatton

**Subject:** Online Video Discussion with SVP of YouTube

Hi Todd,

I hope you are doing well. We were wondering if you and your colleagues might have some time next Tuesday (11/13) to meet with Salar Kamangar, Google's Senior Vice President of YouTube to discuss the rapid growth of the YouTube video platform globally and the developer/content tools that it currently provides to individuals, organizations, and businesses.

Sincerely,

George

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005  
(b) (6) . (b) (6)

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005  
(b) (6) . (b) (6)

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**From:** Kalil, Thomas A.  
**Sent:** Saturday, November 10, 2012 7:13 PM  
**To:** Will Patrick  
**Cc:** Astro Teller; Megan Smith; Dorgelo, Cristin  
**Subject:** RE: Ag idea / moonshot summit?  
**Attachments:** bam-neuron.pdf

Dear team:

At least 3 ways in which Google could help – and we are happy to brainstorm with you on these.

1. Have an exciting Grand Challenge to announce in March 2013 that is even more awesome than a self-driving car, AI that recognize cats using unsupervised machine learning, or Project Glass. ☺
  2. Have a promoted/curated YouTube “Grand Challenges” channel. This could include (a) descriptions of big problems in energy, water, health, education, exploration, fundamental science, emerging technologies; (b) vignettes of teams that are pursuing grand challenges. Goal would be to increase grand challenge thinking among general public, students, entrepreneurs, investors, etc.
  3. Google-wide brainstorming.
- If you could call anyone and ask them to embrace a grand challenge – who would you call and what would you ask them to do? E.g.

Department of Energy – SunShot - solar cheaper than coal

Elon Musk/SpaceX – “I want to die on Mars, but not on impact.” Humanity as multi-planetary species.

DARPA – New York to LA in 11 minutes, 100 year Starship.

Neil Gershenfeld, PARC– Replicator

Qualcomm – Tricorder X prize

Pronutria – 10x production in protein production/acre on non-arable land

Acuitus – raise the wages of someone w/o a college degree by \$20,000 in less than 4 months

MOOC Movement – K-20 curriculum available in x major languages for free

Research community in neuroscience, nanoscience, synthetic biology, and optogenetics – Brain Activity Map (see attached article in Neuron)

Maker Education Initiative + hundreds of thousands of skilled volunteers – Every Child a Maker

Neal Stephenson’s “Young Lady’s Illustrated Primer”

Terraform Mars.

A bottom-up solution to a huge social problem – online organizing for online activism – like 100,000  
Homes Campaign

**From:** Will Patrick [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 2:36 PM  
**To:** Kalil, Thomas A.  
**Cc:** Astro Teller; Megan Smith  
**Subject:** Ag idea / moonshot summit?

Hi Tom,

First - congrats on the re-election!

I wanted to follow up with you on a few things ...

- (1) Regina Dugan mentioned that you might know of a moonshot around growing ag products much more densely. Is that case? If so, that sounds pretty interesting to us - a possible Solve for X talk?
- (2) I believe you delayed the 'grand challenge summit' until after the election. Let us know how we can help with that.
- (3) We're super happy to have you out here for Solve for X 2013 - we'll be following up with registration details in a couple weeks. As reminder the event is Feb 6-8 (save the date is below).

Cheers,  
Will

# SOLVE FOR <X>

A forum to encourage and amplify technology-based moonshot thinking and teamwork.

SAVE THE DATE

"Any sufficiently advanced technology is indistinguishable from magic."

-Arthur C. Clark

We invite you to join us on February 6-8, 2013 for **Solve for X**, an intimate event for a small group of exceptional scientists, entrepreneurs, and technologists, to discuss and debate audacious science and technology projects designed to radically improve the world.

We look forward to having you join us.

**Eric Schmidt, Megan Smith and Astro Teller**

[www.wesolveforx.com](http://www.wesolveforx.com)

## location

Cordevalle Resort  
One Cordevalle Club Drive  
San Martin, CA 95046

## accommodations

Hotel accommodations will be provided for attendees on Wednesday, February 6 – Thursday, February 8.

## schedule

Wednesday, February 6 –

Friday, February 8, 2013

Opening reception on Wednesday before dinner with closing remarks on Friday afternoon.\*

\* The schedule is still being finalized—more details to follow with formal invite in coming weeks. This is an invitation-only event. Your invite is non-transferable.

# The Brain Activity Map Project and the Challenge of Functional Connectomics

A. Paul Alivisatos,<sup>1</sup> Miyoung Chun,<sup>2</sup> George M. Church,<sup>3</sup> Ralph J. Greenspan,<sup>4</sup> Michael L. Roukes,<sup>5</sup> and Rafael Yuste<sup>6,\*</sup>

<sup>1</sup>Materials Science Division, Lawrence Berkeley National Lab and Department of Chemistry, University of California, Berkeley

<sup>2</sup>The Kavli Foundation

<sup>3</sup>Department of Genetics and Wyss Institute, Harvard Medical School

<sup>4</sup>Kavli Institute for Brain and Mind, UCSD

<sup>5</sup>Physics, Applied Physics, & Bioengineering and The Kavli Nanoscience Institute, Caltech

<sup>6</sup>HHMI, Department Biological Sciences, Kavli Institute for Brain Science, Columbia University

\*Correspondence: rafaelyuste@columbia.edu

DOI 10.1016/j.neuron.2012.06.006

The function of neural circuits is an emergent property arising from the coordinated activity of large numbers of neurons. To capture this, we propose launching a large-scale, international public effort, the Brain Activity Map Project, aimed at reconstructing the full record of neural activity across complete neural circuits. This technological challenge could prove to be an invaluable step toward understanding fundamental and pathological brain processes.

"The behavior of large and complex aggregates of elementary particles, it turns out, is not to be understood in terms of a simple extrapolation of the properties of a few particles. Instead, at each level of complexity entirely new properties appear." —*More Is Different*, P.W. Anderson

"New directions in science are launched by new tools much more often than by new concepts. The effect of a concept-driven revolution is to explain old things in new ways. The effect of a tool-driven revolution is to discover new things that have to be explained." —*Imagined Worlds*, Freeman Dyson

## Emergent Properties of Brain Circuits

Understanding how the brain works is arguably one of the greatest scientific challenges of our time. Although there have been piecemeal efforts to explain how different brain regions operate, no general theory of brain function is universally accepted. A fundamental underlying limitation is our ignorance of the brain's microcircuitry, the synaptic connections contained within any given brain area, which Cajal referred to as "impenetrable jungles where many investigators have lost themselves" (Ramón y Cajal, 1923). To explore these jungles, neuroscientists

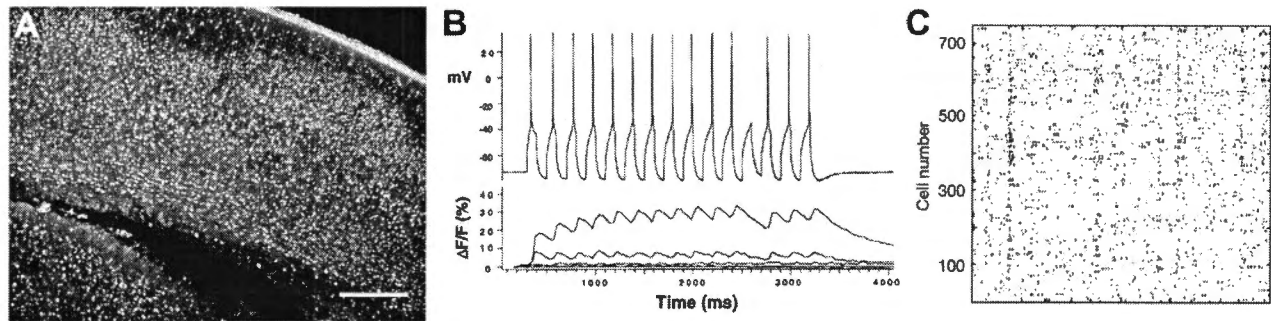
have traditionally relied on electrodes that sample brain activity only very sparsely—from one to a few neurons within a given region. However, neural circuits can involve millions of neurons, so it is probable that neuronal ensembles operate at a multineuronal level of organization, one that will be invisible from single neuron recordings, just as it would be pointless to view an HDTV program by looking at a just a few pixels on a screen.

Neural circuit function is therefore likely to be *emergent*—that is, it could arise from complex interactions among constituents. This hypothesis is supported by the well-documented recurrent and distributed architecture of connections in the CNS. Indeed, individual neurons generally make and receive synaptic contacts from thousands of other neurons. In distributed circuits, the larger the connectivity matrix, the greater the redundancy within the network and the less important each neuron is. Despite these anatomical facts, neurophysiological studies continue to gravitate toward detailed descriptions of the stable feature selectivity of *individual* neurons, a natural consequence of single-electrode recordings. However, given their distributed connections and their plasticity, neurons are likely to be subject to continuous, dynamical rearrangements, participating at different times in different ensembles. Because of this, measuring emergent

functional states, such as dynamical attractors, could be more useful to characterize the functional properties of a circuit than recording receptive field responses from individual cells. Indeed, in some instances where large-scale population monitoring of neuronal ensembles has been possible, emergent circuit states have not been predictable from individual cell responses.

Emergent-level problems are not unique to neuroscience. Breakthroughs in understanding complex systems in other fields have come from shifting the focus to the emergent level. Examples include statistical mechanics, nonequilibrium thermodynamics, many-body physics, and quantum physics. Emergent-level analysis has led to rich branches of science describing novel states of matter involving correlated particles, such as magnetism, superconductivity, superfluidity, quantum Hall effects, and macroscopic quantum coherence. In biological sciences, the sequencing of genomes and the ability to simultaneously measure genome-wide expression patterns enable emergent models of gene regulation, developmental control, and disease states with enhanced predictive accuracy.

We believe similar emergent-level richness is in store for circuit neuroscience. An emergent level of analysis appears to us crucial for understanding brain circuits. Likewise, the pathophysiology of mental



**Figure 1. Calcium Imaging of Neuronal Activity**

(A) Living brain slice from primary visual cortex of a mouse stained with the calcium indicator fura-2 AM. More than a thousand neurons are labeled and can be imaged with a two-photon microscope. From Yuste et al. (2011).  
(B) The calcium concentration in the soma of a neuron (bottom) faithfully tracks the electrical firing pattern of the cell (top). From Smetters et al. (1999).  
(C) Reconstructed "raster plot" of the spontaneous spiking activity of 754 cells from a similar experiment. From Cossart et al., 2003.

illnesses like schizophrenia and autism, which have been resistant to traditional, single-cell level analyses, could potentially be transformed by their consideration as emergent-level pathologies.

### The Brain Activity Map as the Functional Connectome

To elucidate emergent levels of neural circuit function, we propose to record every action potential from every neuron within a circuit—a task we believe is feasible. These comprehensive measurements must be carried out over time-scales on which behavioral output, or mental states, occur. Such recordings could represent a complete functional description of a neural circuit: a Brain Activity Map (BAM). This mapping will transcend the "structural connectome," the *static* anatomical map of a circuit. Instead, we propose the *dynamical* mapping of the "functional connectome," the patterns and sequences of neuronal firing by all neurons. Correlating this firing activity, both with the connectivity of the circuit and with its functional or behavioral output, including manipulation of those circuits, could enable the understanding of neuronal codes and their regulation of behavior and mental states. This emergent level of understanding could also enable accurate diagnosis and restoration of normal patterns of activity to injured or diseased brains, foster the development of broader biomedical and environmental applications, and potentially generate a host of associated economic benefits.

### Imaging Every Spike from Every Neuron

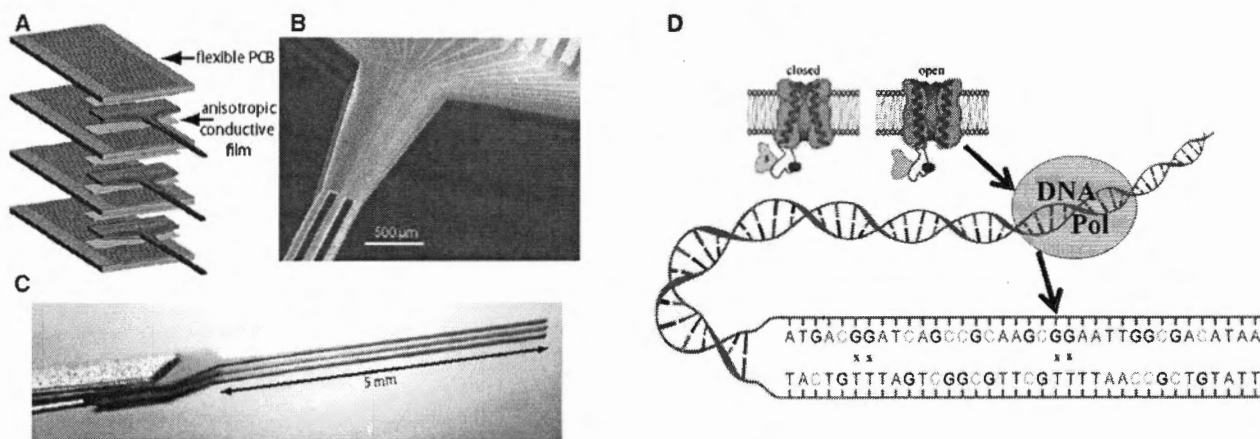
To achieve this vision, one clearly needs to develop novel technologies. To date, it has not been possible to reconstruct the full activity patterns of even a single region of the brain. While imaging technologies like fMRI or MEG can capture whole-brain activity patterns, these techniques lack single-cell specificity and the requisite temporal resolution to permit detection of the neuronal firing patterns. To preserve single-cell information while recording the activity of complete circuits, vigorous efforts be launched to massively upscale the capabilities of both imaging and nanoprobe sensing.

Over the last two decades, neuroscientists have made transformational advances in techniques to monitor the activity of neuronal ensembles, *in vitro* and *in vivo*. Optical techniques are minimally invasive and can provide great spatial and temporal flexibility, have single-cell resolution, and can be applied to living preparations, even awake behaving ones (Helmchen et al., 2011). Calcium imaging can measure the multineuronal activity of a circuit (Yuste and Katz, 1991) (Figure 1), and despite a limited time resolution, this technique can partially reconstruct firing patterns of large (>1,000) populations of neurons *in vitro* or *in vivo* (Grienberger and Konnerth, 2012).

Calcium imaging, while useful, can only approximate the real functional signals of neurons, and it is preferable to capture the complete activity of a circuit by voltage imaging (Peterka et al., 2011). Current

methods for voltage imaging in vertebrate circuits, however, cannot capture action potentials at a large-scale with single-cell resolution. Novel voltage sensors with better signal-to-noise, less photo-damage, and faster temporal resolution are needed. Continued improvements are being made in voltage indicators, and particularly promising are nanoparticles, small inorganic compounds that have large absorption and highly efficient emission. These are robust during extended illumination and can be very sensitive to the external electric field. Zero-dimensional nanoparticles, i.e., quantum dots, could be directly used to measure voltage in neurons. Other nanoparticles, such as nanodiamonds (Mochalin et al., 2012), may provide an even higher sensitivity to magnetic and electric fields. In addition, by acting as "antennas" for light, nanoparticles can greatly enhance optical signals emitted by more traditional voltage reporters.

But regardless of the method chosen for imaging neuronal activity, to capture all spikes from all neurons, one needs to increase the number of imaged neurons and extend the depth of the imaged tissue. A variety of recent advancements in optical hardware and computational approaches could overcome these challenges (Yuste, 2011). Novel methods include powerful light sources for two-photon excitation of deep tissue, faster scanning strategies, scanless approaches using spatio-light-modulators to "bathe" the sample with light, high-numerical aperture objectives



**Figure 2. Nanoprobes, Wireless, and Synthetic Biology Technologies for the BAM Project**

(Left) Silicon nanoprobe arrays (after Du et al., 2009). (A) Flip-chip assembly scheme for connecting the silicon devices with printed circuit boards. (B) SEM micrograph of the rear section of a 50- $\mu$ m-thick shaft array showing the multilayer stacked structure. Adjacent layers have a spacing of 100  $\mu$ m, which is set by the thickness of the flexible cable. (C) Side view of the 50- $\mu$ m-thick shaft array showing that the shafts are stress balanced and are able to retain approximately constant relative spacing. (Right) Synthetic biology approaches. (D) A voltage sensitive calcium channel influences the error rate of an engineered DNA polymerase. X marks sites of mismatch between "T" in the template strand (lower) and "G" new copy strand. Note scale of the various devices and cells.

with large fields of view, engineered point spread functions and adaptive optics corrections of scattering distortions, light-field cameras to reconstruct signals emanating in 3D, and, finally, advances in computational optics and smart algorithms that use prior information of the sample. A combination of many of these novel methods may allow simultaneous 3D imaging of neurons located in many different focal planes in an awake animal. Finally, GRIN fibers and endoscopes allow imaging deeper structures, such as the hippocampus, albeit with some invasiveness.

#### Large-Scale Electrical Recordings with Nanoprobes

Electrical recording neuronal activity is now becoming possible on a massively parallel scale by harnessing novel developments in silicon-based nanoprobes (Figure 2). Silicon-based neural probes with several dozen electrodes are already available commercially; it is now feasible to record from dozens of sites per silicon neural probe, densely, at a pitch of tens of  $\mu$ m (Du et al., 2009). Stacking of two-dimensional multishank arrays into three-dimensional probe arrays would provide the potential for hundreds of thousands of recording sites. There are technical hurdles to be surmounted, but when the technology is perfected,

recording from many thousands of neurons is conceivable with advanced spike-sorting algorithms. The holy grail will be to record from millions of electrodes, keeping the same bandwidth, reducing the electrode pitch down to distances of  $\sim 15$   $\mu$ m, and increasing the probe length to cortical dimensions of several centimeters. This will require significant innovation in systems engineering.

#### Wireless and Synthetic Biology Approaches

We also envision techniques for wireless, noninvasive readout of the activity of neuronal populations (Figure 2). These might include wireless electronic circuits based on silicon very large-scale integration (VLSI), synthetic biological components, or their hybrids. It is easy to underestimate the potential of today's microelectronic technology, and we think that it will ultimately become feasible to deploy small wireless microcircuits, untethered in living brains, for direct monitoring of neuronal activity, although there are significant technological challenges.

As an alternative to silicon VLSI, synthetic biology might provide an interesting set of novel techniques to enable noninvasive recording of activity (Figure 2). This could be considered a wireless option, albeit a radically different one. For

example, DNA polymerases could be used as spike sensors since their error rates are dependent on cation concentration. Prechosen DNA molecules could be synthesized to record patterns of errors corresponding to the patterns of spikes in each cell, encoded as calcium-induced errors, serving as a "ticker-tape" record of the activity of the neuron. The capability of DNA for dense information storage is quite remarkable. In principle, a 5- $\mu$ m-diameter synthetic cell could hold at least 6 billion base pairs of DNA, which could encode 7 days of spiking data at 100 Hz with 100-fold redundancy.

#### A BAM Project Roadmap and Choice of Species

We envision that, for any given circuit, the reconstruction of activity might proceed in three steps. First, initial mapping could be done using calcium imaging with spiking reconstruction carried out at 100 Hz. This could be performed with improvements to existing methods. The second step would involve voltage imaging of action potentials (and subthreshold electrical activity), and one could ideally measure action potentials with a temporal resolution of 1 kHz. These first two steps could be carried out in 3D yet they would be limited to superficial structures ( $<2$  mm deep). In a third step, similar reconstructions of neuronal activity, but penetrating



deep into brain circuits, could be performed. These would first be achieved with massively multiplexed nanoprobe, later complemented by novel wireless approaches.

But which circuits should be worked on, and in which order? We envision parallel efforts on several different preparations—progressing from reconstructing the activity of small, simple circuits to more complicated, larger ones. For example, in the short term (5 years), one could reconstruct the activity of a series of small circuits, all less than 70,000 neurons, from model organisms. *C. elegans* is the only complete connectome (302 neurons and 7,000 connections) (White et al., 1986), and all of its neurons could be imaged simultaneously with two-photon imaging and genetic calcium indicators. In addition, one could reconstruct the entire activity pattern of a discrete region of the *Drosophila* brain, such as the medulla, with ~15,000 neurons. The *Drosophila* connectome is currently 20% complete at the mesoscale (Chiang et al., 2011), and could be finalized within three years. Finally, for vertebrate circuits, short-term goals could include imaging the activity of all the ganglion cells in a mouse retina (~50,000 neurons), the mitral cells in the mouse olfactory bulb (~70,000), or a mouse neocortical brain slice (~40,000, optically accessible neurons).

For midterm goals (10 years), one could image the entire *Drosophila* brain (135,000 neurons), the CNS of the zebrafish (~1 million neurons), or an entire mouse retina or hippocampus, all under a million neurons. One could also reconstruct the activity of a cortical area in a wild-type mouse or in mouse disease models. Finally, it would be also interesting to consider mapping the cortex of the Etruscan shrew, the smallest known mammal, with only a million neurons.

For a long-term goal (15 years), we would expect that technological developments will enable the reconstruction of the neuronal activity of the entire neocortex of an awake mouse, and proceed toward primates. We do not exclude the extension of the BAM Project to humans, and if this project is to be applicable to clinical research or practice, its special challenges are worth addressing early. Potential options for a human BAM

Project include wireless electronics, safely and transiently introducing engineered cells to make tight (transient) junctions with neurons for recording and possibly programmable stimulation, or a combination of these approaches.

### Computational Analysis and Modeling

Our stated goal of recording every spike from every neuron raises the specter of a data deluge, so development of proactive strategies for data reduction, management, and analysis are important. To estimate data storage capacities required for the BAM we consider the anatomical connectome. Bock et al. (2011) have reconstructed 1,500 cell bodies with  $1 \times 10^{13}$  pixels (Bock et al., 2011). By analogy we can estimate that  $7 \times 10^6$  mouse cortical cells would require  $\sim 5 \times 10^{16}$  bytes. This is less data than the current global genome image data. Some might argue that analogies to genomics are limited in that brain activity is of much higher dimensionality than linear genomics sequences. But high-dimensional, dynamic transcriptome, immunome, and whole-body analyses are increasingly enabled by plummeting costs.

Brains are complex dynamical systems with operations on a very wide range of timescales, from milliseconds to years. Brain activity maps, like the broader omics and systems biology paradigms, will need (1) combinatorics, (2) the state dependence of interactions between neurons, and (3) neuronal biophysics, which are extremely varied, adapted, and complex. We envision the creation of large data banks where the complete record of activity of entire neural circuits could be freely downloadable. This could spur a revolution in computational neuroscience, since the analysis and modeling of a neural circuit will be possible, for the first time, with a comprehensive set of data. As the Human Genome Project generated a new field of inquiry ("Genomics"), the generation of these comprehensive data sets could enable the creation of novel fields of neuroscience.

### Data Access and Ethical Considerations

We feel strongly that an effort such as the BAM Project should be squarely put in the public domain. Because it will require

large-scale coordination between many participants and the information will benefit mankind in many ways, it makes sense for this project to be run as a public enterprise with unrestricted access to its resulting data.

There are potential ethical ramifications of the BAM Project that will arise if this technology moves as swiftly as genomics has in the last years. These include issues of mind-control, discrimination, health disparities, unintended short- and long-term toxicities, and other consequences. Well in advance, the scientific community must be proactive, engaging diverse sets of stakeholders and the lay public early and thoughtfully.

### Outcomes and Anticipated Benefits

The BAM Project will generate a host of scientific, medical, technological, educational, and economic benefits to society. Indeed, the widespread effect of this research underscores the need for it to be controlled by the public.

In terms of anticipated scientific benefits, the generation of a complete functional description of circuits will be invaluable to address many outstanding questions in neuroscience for which emergent functional properties could be key (Table 1). Together, answers to these questions can open the doors to deciphering the neural code, or to disproving the existence of a neural code altogether, as well as unlocking the possibility of reverse-engineering neural circuits.

In addition to promoting basic research, we anticipate that the BAM Project will have medical benefits, including novel and sensitive assays for brain diseases, diagnostic tools, validation of novel biomarkers for mental disease, testable hypotheses for pathophysiology of brain diseases in animal models, and development of novel devices and strategies for fine control brain stimulation to rebalance diseased circuits. Not least, we might expect novel understanding and therapies for diseases such as schizophrenia and autism.

Many technological breakthroughs are bound to arise from the BAM Project, as it is positioned at the convergence of biotechnology and nanotechnology. These new technologies could include optical techniques to image in 3D; sensitive, miniature, and intelligent



**Table 1. Outstanding Questions in Neuroscience for Which Emergent Functional Properties Could Be Key**

Are there circuit attractors?

What is the functional connectivity diagram of a circuit?

What detailed computations take place locally?

What are the real-time, multiple, long-range interactions that underlie cognitive functions and behavior?

How do local computations and long-range interactions influence each other?

What are the paths of information flow?

Do alternative pathways produce similar outputs?

When the brain "organizes" itself during development, or "reorganizes" itself after an injury, what is actually happening to activity locally and globally?

When pharmacologically active drugs alter behavior, what are the local and global effects on activity?

When memories are transferred from one brain region to another over time, how do activity patterns change?

What design principles can be discerned in how the brain functions?

Is there an underlying functional architecture to the brain's networks?

What are the true functional underpinnings of perception, recognition, emotion, understanding, consciousness, and subconscious processes?

nanosystems for fundamental investigations in the life sciences, medicine, engineering, and environmental applications; capabilities for storage and manipulation of massive data sets; and development of biologically inspired, computational devices.

As in the Human Genome Project, where every dollar invested in the U.S. generated \$141 in the economy (Battelle, 2011), technological and computing innovations developed in the course of the BAM project will provide economic benefits, potentially leading to the emergence of entirely new industries and commercial ventures. If the Genome Project was "arguably the single most influential investment to have been made in modern science" (Battelle, 2011), the BAM Project, we believe, will have comparable ramifications.

Finally, we should not underestimate the repercussions that such a project could have for education. The proposed activities are broadly interdisciplinary

and will lead to the training of a new generation of scientists and the opening up of new strategies for evaluating pedagogical effectiveness.

#### A Call for a Community Effort

To succeed, the BAM Project needs two critical components: strong leadership from funding agencies and scientific administrators, and the recruitment of a large coalition of interdisciplinary scientists. We believe that neuroscience is ready for a large-scale functional mapping of the entire brain circuitry and that such mapping will directly address the emergent level of their function, shining much-needed light into the "impenetrable jungles" of the brain.

#### ACKNOWLEDGMENTS

This collaboration arose from a workshop held at Chicheley Hall, the Kavli Royal Society International Centre, supported by The Kavli Foundation, the Gatsby Charitable Foundation, and the Allen Institute for Brain Science. We also thank A.S. Chiang, K. Deisseroth, S. Fraser, C. Koch,

E. Marder, O. Painter, H. Park, D. Peterka, S. Seung, A. Siapas, A. Tolias, and X. Zhuang—participants at a smaller, subsequent Kavli Futures Symposium, where initial ideas were jointly refined. We acknowledge support from the DOE (A.P.A.), NHGRI (G.M.C.), NIH and the Mathers Foundation (R.J.G.), NIH and Fondation pour la Recherche et l'Enseignement Supérieur, Paris (M.L.R.), and the Keck Foundation and NEI (R.Y.).

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# SOLVE FOR <X>

A forum to encourage and amplify technology-based moonshot thinking and teamwork.

SAVE THE DATE

"Any sufficiently advanced technology is indistinguishable from magic."

-Arthur C. Clark

We invite you to join us on February 6-8, 2013 for **Solve for X**, an intimate event for a small group of exceptional scientists, entrepreneurs, and technologists, to discuss and debate audacious science and technology projects designed to radically improve the world.

We look forward to having you join us,

**Eric Schmidt, Megan Smith and Astro Teller**

[www.wesolveforx.com](http://www.wesolveforx.com)

## location

Cordevalle Resort  
One Cordevalle Club Drive  
San Martin, CA 95046

## accommodations

Hotel accommodations will be provided for attendees on Wednesday, February 6 – Thursday, February 8.

## schedule

Wednesday, February 6 –  
Friday, February 8, 2013

Opening reception on Wednesday before dinner  
with closing remarks on Friday afternoon.\*

\* The schedule is still being finalized—more details to follow with formal invite in coming weeks.  
This is an invitation-only event. Your invite is non-transferable.

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**From:** Edelman, R. David  
**Sent:** Saturday, November 10, 2012 5:41 PM  
**To:** Johanna Shelton; Jon Orwant  
**Cc:** George Ivanov  
**Subject:** RE: Google Cambridge visit

Thanks, Johanna.

Jon, great to make your acquaintance. Word on the Google street is that you are THE person to discuss these issues, and in a fortuitous coincidence, I find myself in Cambridge late next week. Hoping we could have an informal chat if you're free – perhaps Friday? Let me know if you have some time. Happy to swing by your office; I'll be mobile.

Cheers,

**R. David Edelman**

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 6:08 PM  
**To:** Edelman, R. David; Jon Orwant  
**Cc:** George Ivanov  
**Subject:** Google Cambridge visit

David - per our conversation, I wanted to connect you to Jon Orwant, a longtime Google engineering manager in Cambridge. I hope you two can find a convenient time late next week for you to swing by our Cambridge office and talk to Jon about some of the work his team does.

Have a great trip to beantown!

---

**From:** Kalil, Thomas A.  
**Sent:** Monday, November 12, 2012 9:47 AM  
**To:** Vint Cerf  
**Subject:** RE: Obama: innovation, entrepreneurship, jobs program  
**Attachments:** kalil-kschool.pptx

Dear Vint:

No one person covers all of these issues, but we all collaborate to make sure that the key issues get covered.

Todd Park and his team are focused on the Presidential Innovation fellows, Open Data in health, energy, public safety, education, etc., Open Government, digital inclusion, the application of IT to stop human trafficking, electronic health records, etc.

Tom Power works on spectrum management and telecom/Internet policy more broadly.

My team (which has grown since we last talked) covers research funding (Kei Koizumi); Startup America (Doug Rand), STEM education, the Maker Movement, and next generation learning technologies (Kumar Garg), tech transfer and next-generation networks (Nick Maynard), multi-agency research initiatives in robotics (Vijay Kumar), Big Data, Materials Genome (Cyrus Wadia), and the Brain Activity Map; Grand Challenges and the use of incentive prizes (Christin Dorgelo), the role of innovation in global health/development (Robynn Steffen), and the convergence of biology, the physical sciences, and engineering (Robbie Barbero). See my attached presentation to the Kennedy School which has some slides on these topics.

We also have divisions at OSTP that work on science, energy and environment, and national security/international affairs.

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Monday, November 12, 2012 4:44 AM  
**To:** Kalil, Thomas A.  
**Subject:** Fwd: Obama: innovation, entrepreneurship, jobs program

tom,

do you know the answer?

v

----- Forwarded message -----

**From:** David Nordfors (b) (6)  
**Date:** Sun, Nov 11, 2012 at 9:29 AM  
**Subject:** Obama: innovation, entrepreneurship, jobs program  
**To:** "Vinton G. Cerf" (b) (6); Curtis Carlson (b) (6)

Do you know who runs Obamas innovation & jobs initiatives over at the white house? I will try to find out!

<http://www.technology-digital.com/web20/barack-obamas-new-plans-for-the-technology-industry>

Sent from my iPhone

# Policy Entrepreneurship for Science, Technology and Innovation

Thomas Kalil

Deputy Director for Policy

White House Office of Science and Technology Policy &  
National Economic Council

(b) (6)

October 19, 2012





## Outline of Talk

- What is policy entrepreneurship?
- Examples of tools that a WH policy entrepreneur can use
- Examples of initiatives from my team
- Useful skills and dispositions
- How could policy schools help?



## Policy entrepreneurs

- “Highly motivated individuals or small teams can do much to draw attention to policy problems, present innovative policy solutions, build coalitions of supporters, and secure legislative action.” [Mintrom and Norman, 2009.]
- Entrepreneurship as “the pursuit of opportunity without regard to resources currently controlled.” [Stevenson.]





## Examples of Tools (1)

- Authoritative statements of national policy (Executive Orders, Presidential Policy Directives, agenda-setting documents, etc.)
- President's Budget
- Work with Congress on legislation
- Presidential events and speeches (powerful artificial deadlines)
  - “And so today, I am pleased to announce that ...”
- Bully pulpit/ability to convene
  - “All hands on deck” – public-private partnerships
  - If you could call anyone, who would you call and what would you ask for?



## Examples of Tools (2)

- Encourage or direct an agency to achieve a particular goal
- Inter-agency coordination
  - Decisions, dispute resolution
  - “Whole-of-government” approach – shared vision with distributed execution
- Personnel decisions across the government, creating new positions
- Create/task Presidential advisory committees
- International policy (e.g. treaties, bilateral or multilateral collaboration)
- Create [REDACTED]



# President Obama's Innovation Strategy

## Innovation for Sustainable Growth and Quality Jobs

### Catalyze Breakthroughs for National Priorities

- Unleash a clean energy revolution
- Support advanced vehicle technology
- Drive breakthroughs in health IT
- Address the "grand challenges" of the 21<sup>st</sup> century

### Promote Competitive Markets that Spur Productive Entrepreneurship

- Promote American exports
- Support open capital markets that allocate resources to the most promising ideas
- Encourage high-growth and innovation-based entrepreneurship
- Improve public sector innovation and support community innovation

### Invest in the Building Blocks of American Innovation

- Restore American leadership in fundamental research
- Educate the next generation with 21<sup>st</sup> century knowledge and skills while creating a world-class workforce
- Build a leading physical infrastructure
- Develop an advanced information technology ecosystem



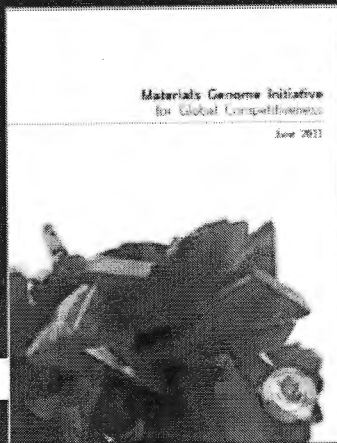


# Materials Genome Initiative

Goal: Decrease the time-to-market by 50 %

*To help businesses discover, develop, and deploy new materials twice as fast, we're launching what we call the Materials Genome Initiative. The invention of silicon circuits and lithium ion batteries made computers and iPods and iPads possible, but it took years to get those technologies from the drawing board to the market place. We can do it faster.*

*-President Obama, Carnegie Mellon University, June 2011*



## Initiatives

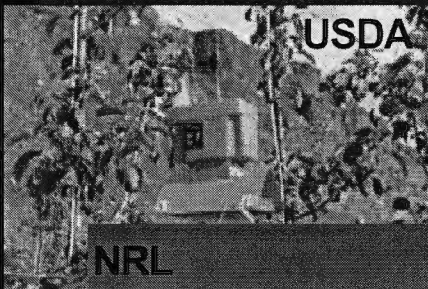
- Develop a Materials Innovation Infrastructure
- Achieve National goals in energy, security, and human welfare with advanced materials
- Equipping the next generation materials workforce

## Themes

- Incentivizing open paradigms of sharing & access of tools
- Facilitating the development of innovation ecosystems & access to all stakeholders
- Driving innovative techniques across computation, informatics & experimentation
- Catalyzing shift in culture across the entire materials continuum & scaling the movement

# National Robotics Initiative (NRI)

The realization of co-robots acting in direct support of individuals and groups... manufacturing, exploration, discovery, agriculture, security, .....



NRL



NIH

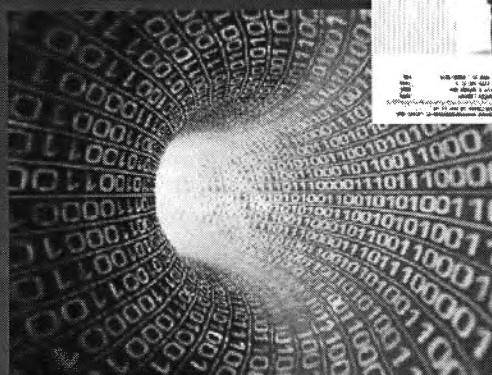
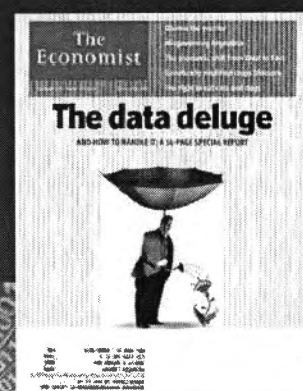
## THEMES

- Fundamental research
- Controls and dynamical systems
- Computational models of human cognition
- Application-inspired topics
- Micro- and nano-robotics, neuro-robotics, humanoid robotics, & networked multi-robot team
- Understanding of the long term social, behavioral and economic implications of co-robots across all areas of human activity
- Use of co-robots for STEM learning



# BIG DATA

- *“The future of computing is not just big iron. It’s big data.”*
- March 29<sup>th</sup> – agencies announce \$200 million in additional investments in R&D related to Big Data (volume, variety, velocity and veracity)
- NSF and NIH joint solicitation
- DARPA XDATA program
- Accelerate “data to knowledge to action.”





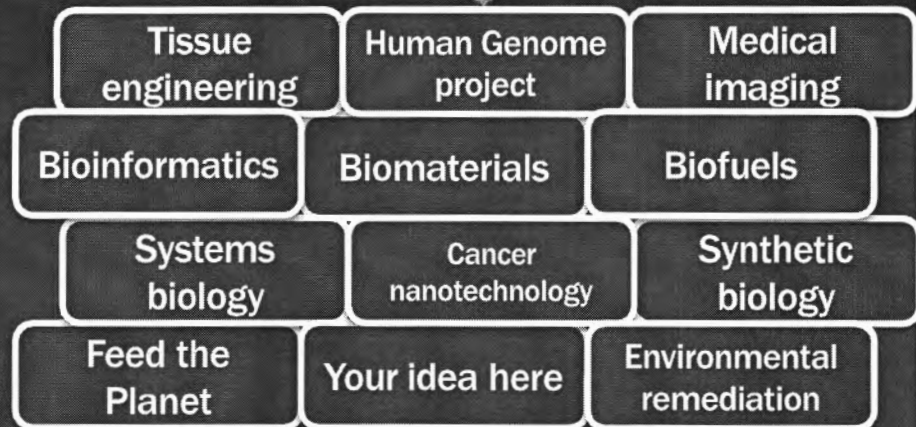
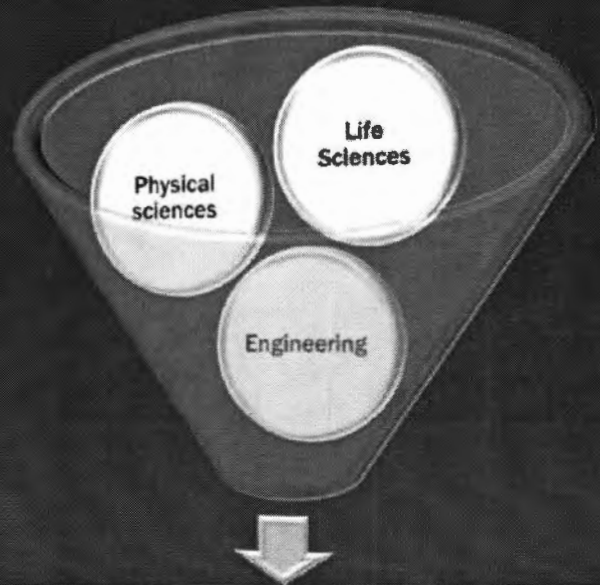
# Brain Activity Map



# Convergence

*"The possibilities of where this research might lead are endless. Imagine a new treatment that kills cancer cells but leaves healthy ones untouched; regenerative medicine that ends the agonizing wait for an organ transplant... intelligent prosthetics that can enable a wounded veteran to play the piano again."*

*- President Obama, 2010*



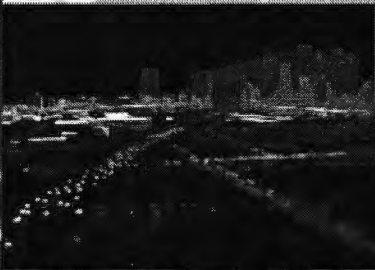
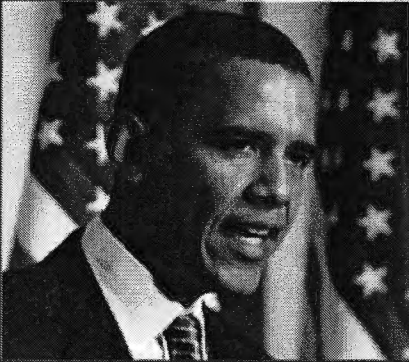


# US Ignite Partnership

Goal: Create a national testbed for next-gen apps and networks

*"Building a nationwide broadband network will strengthen our economy and put more Americans back to work. By connecting every corner of our country to the digital age, we can help our businesses become more competitive, our students become more informed and our citizens become more engaged."*

*-President Obama, June 2012*



## Initiative

- Stitching together communities that have already deployed 100Mbps+ to allow next-gen applications to be demonstrated.
- Leveraging existing high-speed research networks.
- Sharing best practices in infrastructure deployment, service creation and delivery, application development, and R&D.
- Goal: deliver over 60 next-gen apps to a national network of 200 communities

## Current Partners

- 9 agencies, including NSF as lead
- 15 companies
- 25 communities
- 60 campuses

# **“Educate to Innovate” Launched in 2009**

Public-Private Campaign to Spur STEM; Over \$700M in direct/in-kind raised

## Some Key Partnerships

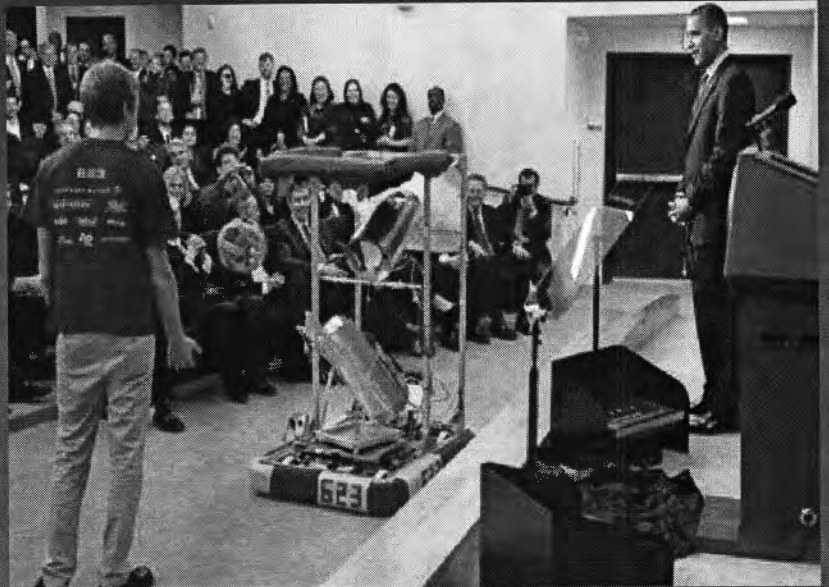
- “100Kin10”
- Change the Equation
- Annual White House Science Fair
- NMSI AP Initiative
- Digital Promise
- Maker Education Initiative
- “Equal futures” partnership

---

“Through these efforts, we going to expand the scope and scale of science and math education all across America.”

---

—President Barack Obama, November 3<sup>rd</sup>, 2009





# 100Kin10

ANSWERING THE NATION'S CALL

- Responding to President's call in State of the Union to prepare 100,000 excellent STEM teachers over next 10 years.
- Led by Carnegie Corp., over 115 organizations have come together to answer the call.
- Includes 15 major funders that have raised a \$24M fund through a common funding registry. Due to major interest, they are now exploring a second fund.
- In addition to funding, over 100 other individual commitments, including by UChicago to build research track on the investments.



# Every Child a Maker

• Maker Education Initiative •

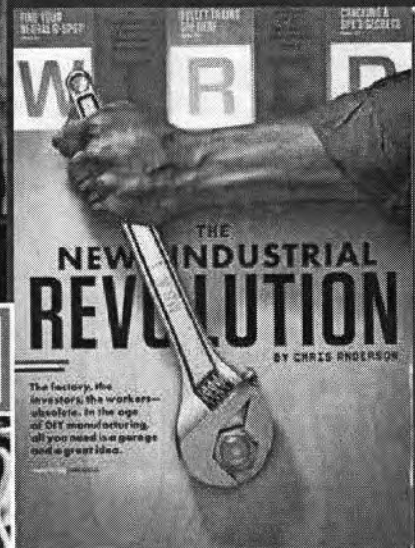
- Growing movement to give more opportunities to children to be able to make things – not just consume.

- Over 60+ “Maker Faires” planned this year. San Mateo Faire gets over 100,000 visitors.

- With support from Cognizant, Pixar, Make and Intel, Maker Education Initiative launched earlier this month, with goal of building a movement to thousands more children a making experience.



## Maker Faire



# High Skill Immigration



- President Barack Obama,  
Tuesday, January 24, 2012

***"let's at least agree to stop expelling responsible young people who want to staff our labs, start new businesses, defend this country. Send me a law that gives them the chance to earn their citizenship. I will sign it right away."***

## Non-legislative approaches

- Developing a handbook that clarifies existing pathways for noncitizen STEM experts to work at DoD labs where no qualified U.S. citizen is available for a mission-critical position.
- Within U.S. Citizenship and Immigration Services (USCIS), an Entrepreneurs in Residence (EIR) team of outside experts and agency staff is focused on optimizing the range of existing visa categories used by entrepreneurs to provide pathways that are clear, consistent and aligned with business realities.





# Startup America: Fueling high-growth entrepreneurship

## Administrative action

"[What] we want to do is to make sure that **every single agency**, even as they're tending to their energy initiatives or providing homeland security or transportation or defense, that we're also thinking about how are we're advancing the cause of **giving small businesses and entrepreneurs opportunities** to start creating the next Google or the next Apple or the next innovative company that's going to create jobs and improve our economy."

--President Obama,

Jan. 31, 2012

## Legislative agenda

JOBS Act highlights:

- Crowdfunding (<\$1M)
- Mini public offerings (<\$50M)
- IPO on-ramp (<\$700M)



April 5, 2012

## Private-sector mobilization

- Delivering services valued at >\$1.5B to 100,000 startups over 3 years
- Over 30 entrepreneur-led Startup Regions
- Startup-Corporate Connection "dating site" for startups to partner with Fortune 500



STARTUP  
**AMERICA**  
PARTNERSHIP



# Harnessing Innovation for Global Development

*We're expanding scientific collaboration with other countries and investing in game-changing science and technology to help spark historic leaps in development.*

-President Obama, September 2010

Open Source Development: Empowering problem-solvers from around the world to tackle development challenges

- Higher Education Solutions Network
- Development Innovation Ventures
- Saving Lives at Birth Grand Challenge
- LAUNCH (USAID, NASA, Nike, State)

Making Greatest Use of Science Investments

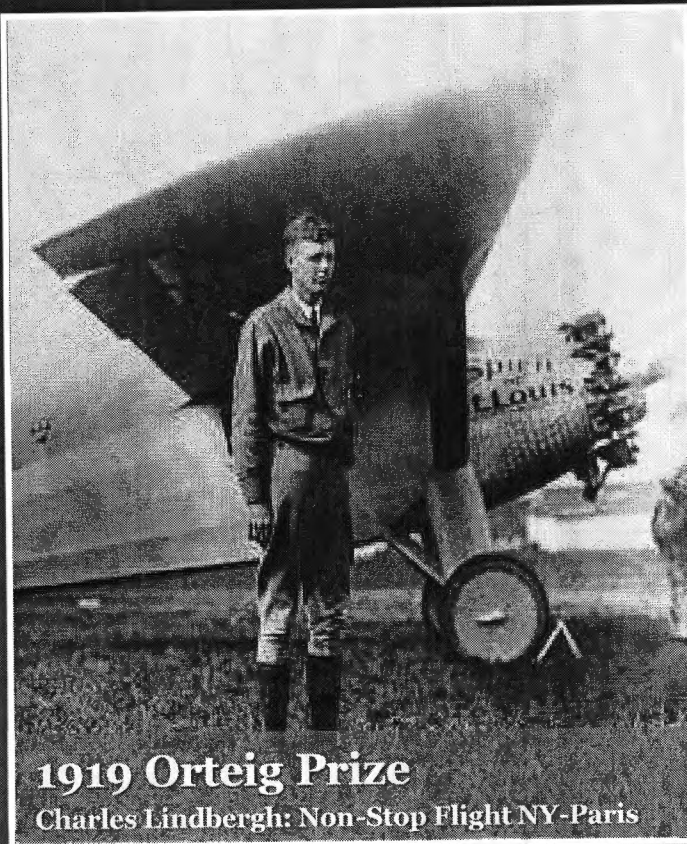
- USAID PEER Program: Partnerships for Enhanced Engagement in Research
- NIH: Non-profit Model License, Medicines Patent Pool, and WIPO Re:Search

Leveraging Technology for Efficacy & Scale

- Mobile Money: Better than Cash Alliance
- Aid Transparency: Geo-Spatial Center and Foreign Assistance Dashboard

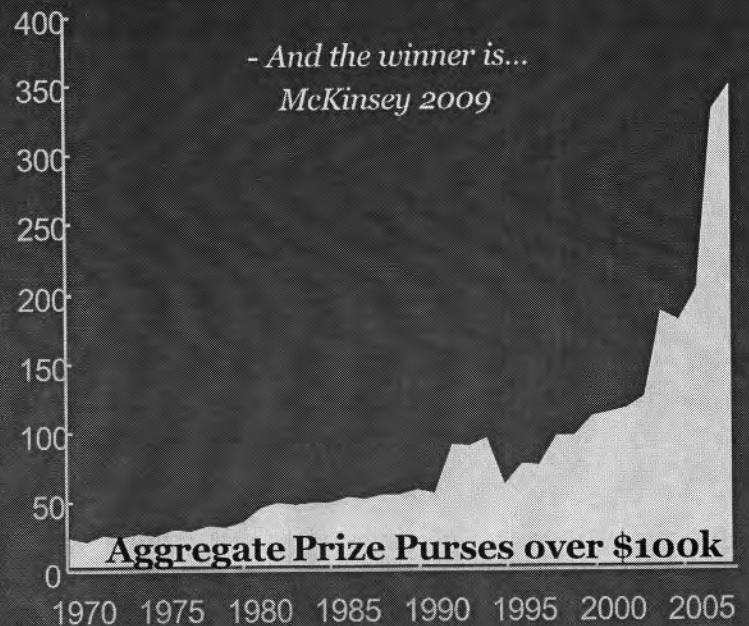


# Incentive Prizes – Record of Spurring Innovation



“[T]otal funds from large prizes have more than tripled over the last decade to surpass \$375 million.”

- And the winner is...  
McKinsey 2009





## Benefits of Prizes

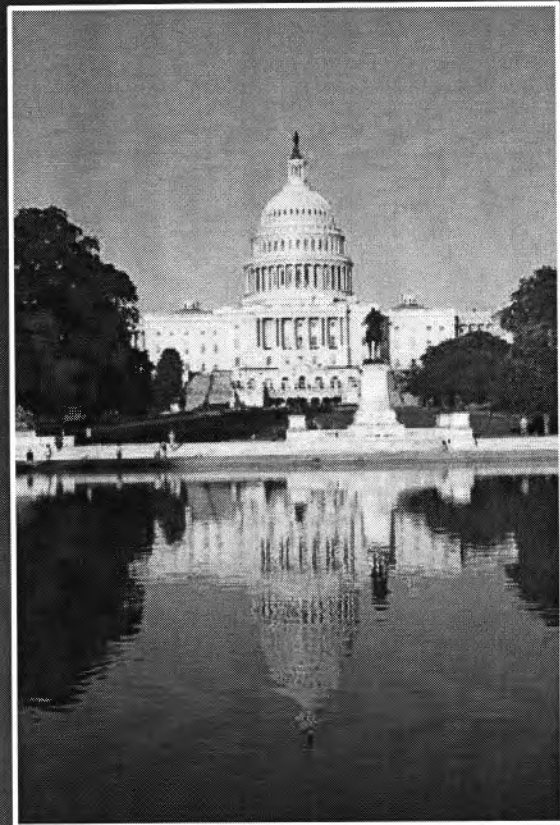
1. Shine a spotlight on a problem or opportunity
2. Pay only for results
3. Target an ambitious goal without predicting which team or approach is most likely to succeed
4. Reach beyond usual suspects to tap top talent
5. Stimulate private sector investment many times greater than the prize purse
6. Bring out-of-discipline perspectives to bear
7. Inspire risk-taking by offering a level playing field
8. Establish clear target metrics and validation protocols



# America COMPETES Reauthorization Act

“Each head of an agency, or the heads of multiple agencies in cooperation, may carry out a program to award prizes [up to \$50 million] competitively to stimulate innovation that has the potential to advance the mission of the respective agency”

*-Congress  
December 21, 2010*





**Challenge.gov**  
Government Challenges, Your Solutions

: 200+ Challenges, 45+ Agencies



**Challenge.gov**  
Government Challenges, Your Solutions

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[Find Challenges](#)

[About](#)

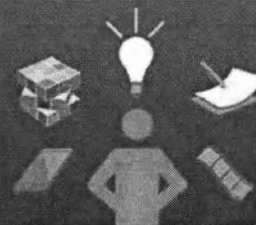
e.g. "Apps" or "Health"

**SEARCH**

On Challenge.gov, the public and government can solve problems together.

**SIGN UP AND PARTICIPATE**

[or Learn More](#)



### Featured Challenges

1 2 3 **4**



#### Startup America Policy Challenge

by The White House

Help knock down barriers to innovation and entrepreneurship in health care IT, clean energy, and learning technologies.



3 months left to submit

[LEARN MORE](#)

### Browse Challenges

#### CATEGORIES

Defense (19)

Economy (12)

Education (32)

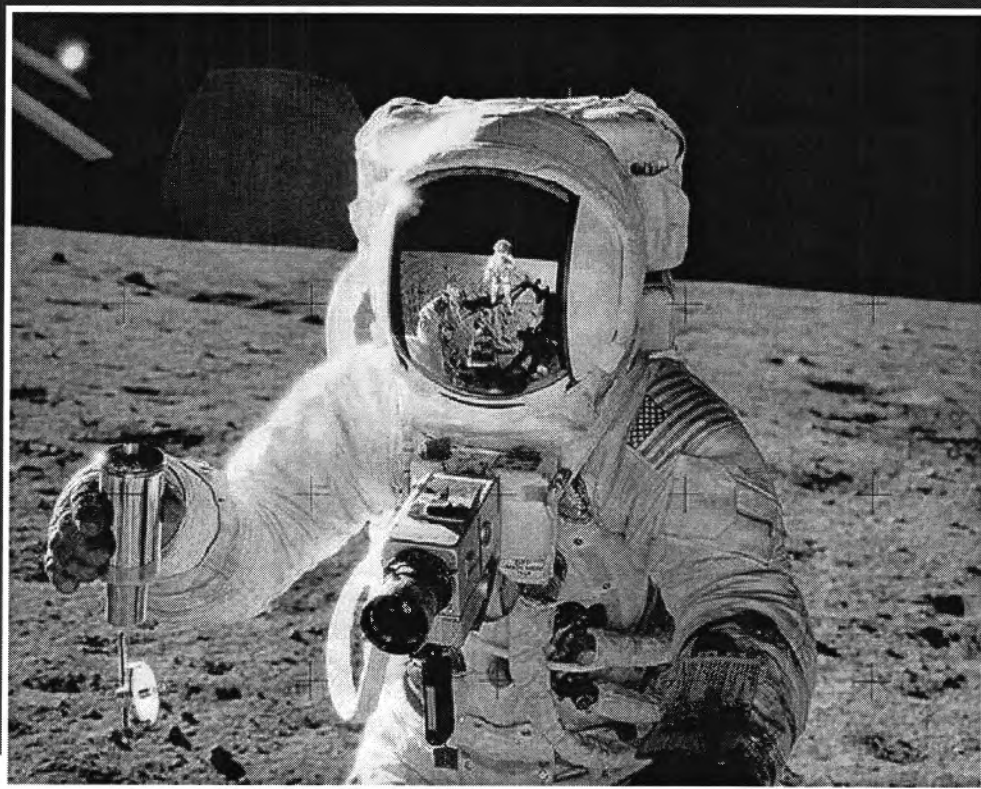
Energy & Environment (31)

Health (53)

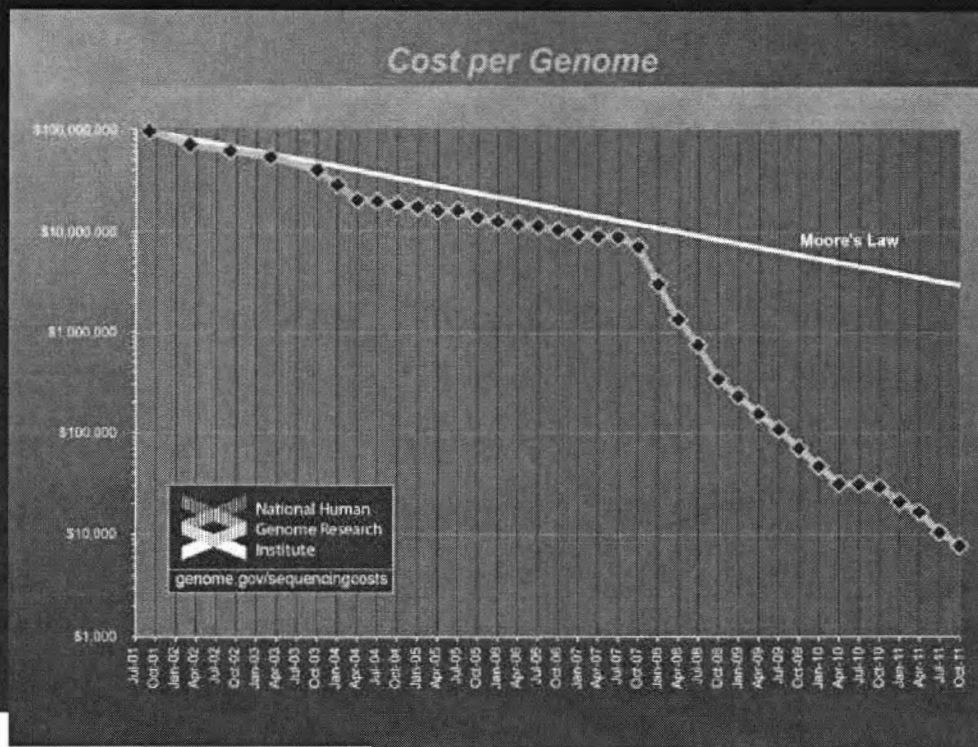




# Grand Challenges



# Sequencing the Human Genome



# Private Sector Grand Challenges

- Google – self-driving car (outgrowth of DARPA Challenge)
- IBM – AI that beats Gary Kasparov at chess, Ken Jennings at Jeopardy – Watson may create huge commercial markets
- Qualcomm – Tricorder X Prize
- Elon Musk/SpaceX – humanity should become a multi-planetary species. “I want to die on Mars.”
- Pronutria – 10x or more increase in productivity for nutrition (output/acre)





## Attributes of Grand Challenges

1. Significant impact in areas of national and global priority
2. Ambitious yet achievable
3. Compelling, motivating, capture the public imagination
4. “Goldilocks” level of specificity and focus
5. Able to harness innovation and advances in science and technology



“By defining our goal more clearly,  
by making it seem more manageable and  
less remote, we can help all peoples to see  
it, to draw hope from it, and to move  
irresistibly towards it.”

- President John F. Kennedy

June 10, 1963,  
Commencement Address,  
American University





## Next Steps on Grand Challenges

- A growing number of individuals and organizations are involved in the identification and pursuit of a Grand Challenges (government, private sector, research universities, philanthropists, non-profits, etc.)
- Grand Challenges become more prominent in America's popular culture and conversations about the future



## **Skills and dispositions (1)**

- Have a “dent you want to make in the universe” (Jobs)
- Ability to get excited about other people’s ideas (force multiplier for others)
- Specific and concrete about what, how, why, who, by when
- Wide range of relationships based on reciprocity, trust, mutual understanding



## Skills and dispositions (2)

- Intellectual arbitrage (use tactic developed by domain A in domain B)
- A large and growing “tool-box” of strategies, moves, tactics, analytical frameworks
- Persistent (“water on stone”), but willing to compromise to get support, revise ideas in the face of new evidence
- Willing to let others take the credit





## **Skills and dispositions (3)**

- Good at brokering conversations and building coalitions and “mini-movements” that span sectors, disciplines, professions
- Fanatical about identifying and recruiting talent
- Eliciting help from others (Tom Sawyer and white picket fence), influence without authority



## Role for policy schools (1)

- Coursework and experiential learning that prepares students to become policy entrepreneurs
  - Make capstone project multidisciplinary
- National network of policy clinics
  - Equivalent of “tech transfer” for policy-relevant ideas and research
  - Sponsors of “policy business plan” competitions (see e.g. Hamilton Project, ASU)
  - More interaction with policy-makers to identify important topics and questions
  - Different policy schools could specialize, depending on unique exper



## Role for policy schools (2)

- Open educational resources that will expand “informed participation”
  - Make case studies available to public
  - Create tutorials on different policy issues, analytical tools and frameworks , policy instruments
  - Oral history of successful policy entrepreneurs to capture the tacit knowledge they have accumulated
  - Create repository of policy documents and templates – policymakers do things with words!
- Your idea here





## Motivating example

- 2001 – Michael Kremer proposes Advanced Market Commitment for vaccines for diseases of the poor
- 2003- 2005 - Center for Global Development designs and publishes a detailed proposal
- 2006 – Idea embraced by G7 Finance Ministers
- 2010 – poor kids in developing countries being vaccinated with pneumo vaccines – will save 7 million lives by 2030
- 2012 – G20 supports this approach for developing country agriculture – Ag Results Initiative



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**From:** Kalil, Thomas A.  
**Sent:** Monday, November 12, 2012 10:02 AM  
**To:** Vint Cerf  
**Subject:** RE: Obama: innovation, entrepreneurship, jobs program  
**Attachments:** it-apps-memo-0625.docx; grandchallenges-speech-04122012.pdf

Yes! We have many more projects/ideas that we can execute on. See the attached, for example – on IT applications to solve societal problems.

Here are some ideas for how people with expertise in a particular area might devote some fraction of their time to public service – but we need an organization that could serve as an “intermediary.” CCC plays that role in computer science – for example. <http://www.cra.org/ccc/>

<http://www.whitehouse.gov/sites/default/files/microsites/ostp/kalil-participation.pdf>

I will also send you the e-mail I sent to Google X because they made the mistake of asking “how can you help” on our grand challenges project (see attached).

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Monday, November 12, 2012 9:53 AM  
**To:** Kalil, Thomas A.  
**Subject:** RE: Obama: innovation, entrepreneurship, jobs program

Wow! Want some more help? :-)

On Nov 12, 2012 9:46 AM, "Kalil, Thomas A." (b) (6) wrote:

Dear Vint:

No one person covers all of these issues, but we all collaborate to make sure that the key issues get covered.

Todd Park and his team are focused on the Presidential Innovation fellows, Open Data in health, energy, public safety, education, etc., Open Government, digital inclusion, the application of IT to stop human trafficking, electronic health records, etc.

Tom Power works on spectrum management and telecom/Internet policy more broadly.



My team (which has grown since we last talked) covers research funding (Kei Koizumi); Startup America (Doug Rand), STEM education, the Maker Movement, and next generation learning technologies (Kumar Garg), tech transfer and next - generation networks (Nick Maynard), multi -agency research initiatives in robotics (Vijay Kumar), Big Data, Materials Genome (Cyrus Wadia), and the Brain Activity Map; Grand Challenges and the use of incentive prizes (Christin Dorgelo), the role of innovation in global health/development (Robynn Steffen), and the convergence of biology, the physical sciences, and engineering (Robbie Barbero). See my attached presentation to the Kennedy School which has some slides on these topics.

We also have divisions at OSTP that work on science, energy and environment, and national security/international affairs.

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Monday, November 12, 2012 4:44 AM  
**To:** Kalil, Thomas A.  
**Subject:** Fwd: Obama: innovation, entrepreneurship, jobs program

tom,

do you know the answer?

v

----- Forwarded message -----

**From:** David Nordfors (b) (6)  
**Date:** Sun, Nov 11, 2012 at 9:29 AM  
**Subject:** Obama: innovation, entrepreneurship, jobs program  
**To:** "Vinton G. Cerf" (b) (6) Curtis Carlson (b) (6)

Do you know who runs Obamas innovation & jobs initiatives over at the white house? I will try to find out!

<http://www.technology-digital.com/web20/barack-obamas-new-plans-for-the-technology-industry>

Sent from my iPhone

## **The Grand Challenges of the 21<sup>st</sup> Century**

Prepared remarks of Tom Kalil at the Information Technology and Innovation Foundation

April 12, 2012

Washington, DC

Good morning. Today I am going to be talking about Grand Challenges – ambitious yet achievable goals that capture the public’s imagination and that require innovation and breakthroughs in science and technology to achieve.

Some historical examples of Grand Challenges are President Kennedy’s call to put a man on the moon or the Human Genome Project. More recently, we have seen decentralized, bottom-up efforts as well. Jimmy Wales defined the mission of Wikipedia as giving “freely the sum of the world’s knowledge to every single person on the planet in the language of their choice.” Today Wikipedia has almost 20 million articles in 282 languages and 365 million readers.

I want to explore the following questions:

- What role do Grand Challenges play in President Obama’s innovation strategy?
- What are the attributes of a Grand Challenge, and why are Grand Challenges important?
- What are some examples of Grand Challenges that deserve more attention?
- How could we significantly increase the number of individuals and institutions that are involved in identifying and pursuing Grand Challenges?

### **The Role of Grand Challenges in President Obama’s Strategy for American Innovation**

President Obama’s Strategy for American Innovation has three elements: investing in the building blocks of long-term economic growth such as R&D, education, and infrastructure; creating the environment for private sector investment; and harnessing innovation to address national priorities in areas such as health, energy, and education. One component of the President’s national innovation strategy calls for the pursuit of Grand Challenges, but the strategy supports many other approaches as well. For example, support for curiosity-driven research is critical, both because expanding the frontiers of human knowledge is an end in itself, and because it leads to benefits that we could never have predicted. Studying the bioluminescence of jellyfish does not sound very practical, but it led to the discovery of green fluorescent protein, a key tool in biological imaging.

A number of agencies are supporting Grand Challenges related to their missions. The Department of Energy, for example, is backing several Clean Energy Grand Challenges, including “SunShot” – an initiative to make solar energy as cheap as coal, and “EV Everywhere”

*Thomas Kalil, prepared remarks at the Information Technology and Innovation Foundation,  
April 12, 2012, Washington, DC*

– an initiative to make electric vehicles as affordable and convenient to own as today’s gasoline-powered vehicles.

USAID and its partners have launched several Grand Challenges for Development, including “Saving Lives at Birth” – designed to improve maternal and newborn health during the critical 48 hour period after birth by increasing access to primary health care for pregnant women and newborns by at least 50%, and “All Children Reading” – which seeks to dramatically increase the number of children in low-income countries who leave primary school with basic reading skills.

DARPA and NASA are supporting a study of a 100-Year Starship to understand what it would take – from an organizational, technical, sociological, and ethical perspective – to send humans to another star.

As one of many tools to address Grand Challenges, the Administration is also encouraging agencies to increase their use of incentive prizes to set and meet ambitious goals. Incentive prizes have a long history of catalyzing breakthroughs. In 1714, the British government offered a prize of £20,000 to the person who found a way to accurately determine a ship’s longitude. Charles Lindbergh won the \$25,000 Orteig prize for making the first nonstop flight from New York to Paris. In recent years, the use of incentive prizes for open innovation by the private sector and philanthropies has increased dramatically as companies and donors have come to understand the power of this tool.

Incentive prizes work as one tool to address Grand Challenges because they shine a spotlight on an ambitious goal without having to predict which team or approach is most likely to succeed. Incentive prizes help us reach beyond the “usual suspects” to increase the number of minds tackling a problem, bringing out-of-discipline perspectives to bear and inspiring risk-taking by offering a level playing field.

The recent Wendy Schmidt Oil Cleanup X Challenge, supported by judging assistance from the National Oceanic and Atmospheric Administration and the Department of the Interior, set out a target of doubling today’s standard for oil recovery by mechanical cleanup systems. After more than 350 organizations expressed interest in competing, 10 finalist teams demonstrated their systems in 54,000 gallons of oil at an Interior Department test facility. Seven of those teams exceeded the industry’s previous best oil recovery rate in testing, and the winner almost quadrupled that standard with 4,670 gallons per minute oil recovery rate at 89.5% efficiency, an astounding feat given that teams had less than 6 months to develop and refine their systems.

Another recent prize was NASA’s Green Flight Challenge that called upon aviation innovators to build and demonstrate a super-fuel efficient full-scale aircraft. The cash prize purse of \$1.65 million offered by NASA attracted 14 teams, which collectively invested more than \$6 million. In a historic achievement, the two winning teams exceeded the performance requirements by nearly a factor of two, flying more than 200 miles on the energy equivalent of just half a gallon

*Thomas Kalil, prepared remarks at the Information Technology and Innovation Foundation, April 12, 2012, Washington, DC*

of gas, all while averaging 100 mph with two people on board. NASA further leveraged taxpayer dollars, by partnering with the CAFE Foundation, which invested over \$1 million in rigorous evaluation and publicity – extending the impact of the prize. The high-profile demonstration of safe, low-emission technologies may spark a new electric airplane industry.

Incentive prizes are one of several powerful tools for working towards a Grand Challenge. I will address more mechanisms for contributing to a Grand Challenge later in my remarks.

### **Attributes and Benefits of Grand Challenges**

As President Kennedy observed, “By defining our goal more clearly, by making it seem more manageable and less remote, we can help all peoples to see it, to draw hope from it, and to move irresistibly towards it.”

Although there is no universally accepted definition of what constitutes a Grand Challenge, I want to focus on Grand Challenges that have the following attributes.

First, they can have a major impact in domains such as health, energy, sustainability, education, economic opportunity, national security, or human exploration.

Second, they are ambitious but achievable. Proposing to end scarcity in five years is certainly ambitious, but it is not achievable. As Arthur Sulzberger put it, “I believe in an open mind, but not so open that your brains fall out.”

Third, Grand Challenges are compelling and intrinsically motivating. They should capture the public’s imagination. Many people should be willing to devote a good chunk of their career to the pursuit of one of these goals.

Fourth, Grand Challenges have a “Goldilocks” level of specificity and focus. “Improving the human condition” is not a Grand Challenge because it does not provide enough guidance for what to do next. One of the virtues of a goal like “landing a man on the moon and returning him safely to the earth” is that it is clear whether it has been achieved. Grand Challenges should have measurable targets for success and timing of completion. On the other hand, a Grand Challenge that is too narrowly defined may assume a particular technical solution and reduce the opportunity for new approaches.

Finally, Grand Challenges can help drive and harness innovation and advances in science and technology. I certainly do not want to argue that technology is going to solve all of our problems. But it can be a powerful tool, particularly when combined with social, financial, policy, institutional, and business model innovations.

The identification and pursuit of Grand Challenges has a number of benefits.

Grand Challenges can catalyze innovations that foster economic growth and job creation, spur the formation of multidisciplinary teams of researchers, encourage multi-sector collaborations,

*Thomas Kalil, prepared remarks at the Information Technology and Innovation Foundation,  
April 12, 2012, Washington, DC*

bring new expertise to bear on important problems, strengthen the “social contract” between science and society, and inspire the next generation of scientists, engineers, and entrepreneurs to work on hard and important problems.

Also, as various technologies such as bio, info, and nanotechnology become more and more powerful – the question “what should we do” is arguably as or more important than “what can we do.” This is not primarily a technical question, it is a question that relies on imagination, creativity, values, and our individual and shared views on how we define progress.

### **What are some Grand Challenges that deserve more attention?**

Although a growing number of organizations are beginning to embrace ambitious goals, there are many Grand Challenges that deserve more attention relative to their importance.

For example, what if we could use advances in learning science and technology to dramatically improve education and training?

DARPA and the Navy are collaborating on a program called Education Dominance, whose goal is to allow military personnel to acquire a new technical skill in months, not years.

Preliminary evaluation of the program by the Institute for Defense Analysis suggests that they may have succeeded in developing a digital tutor for IT systems administration that is as effective as a personal tutor. After using the digital tutor for a few months, new Navy recruits are outperforming Navy IT experts with 5-7 years of experience on real-world trouble tickets.

If these results are confirmed, and if they can be replicated for academic subjects such as 8<sup>th</sup> grade math and additional technical skills that are valued by employers, this would be a game-changer.

Researchers are exploring other approaches as well, such as online courses that get better the more students use them. By instrumenting the learning environment, we can provide more rapid feedback to learners, teachers, course designers, and learning scientists. Researchers can also create a virtual learning laboratory with hundreds of thousands of participants. As opposed to having theoretical debates about the best way to teach a given subject like fractions, we can conduct many low-cost fast experiments, in the same way that Internet companies use A/B comparisons to continuously improve their services.

We also have an exciting opportunity to give every child the ability to become a Maker and to have the experience of designing and building something that they find personally meaningful to them. As information technology has evolved from the mainframe, to the personal computer, to the computer that fits in your pocket, new technologies such as 3-D printing, low cost machine tools, and open-source hardware are enabling personal fabrication. These tools and interaction with the Maker community could significantly increase the number of students who get interested in STEM.

*Thomas Kalil, prepared remarks at the Information Technology and Innovation Foundation, April 12, 2012, Washington, DC*



There is a huge gap between the potential of learning science and technology and what we actually observe in the classroom and the workplace. One of the reasons for this is that we invest less than 0.2 percent of K-12 expenditures on R&D. That is why the Administration is committed to creating a DARPA for the Department of Education. And it is why we announced the creation of a League of Innovative Schools – a coalition of school districts and virtual high schools that plan to use their purchasing power to encourage learning technologies that significantly improve student performance.

### **What are the elements of an “all hands on deck” approach to Grand Challenges?**

In closing, I want to offer some suggestions on what President Obama calls an “all hands on deck” approach to the identification and pursuit of Grand Challenges might look like. This is important because many of these challenges will undoubtedly require collaborations that span sectors, industries, disciplines, and boundaries.

I would like you to imagine a world in which more individuals and institutions are involved in pursuing or supporting a Grand Challenge and a world in which these challenges play a more prominent role in our culture and in our public discourse.

This summer, the Office of Science and Technology Policy will convene a White House event to celebrate and honor individuals and organizations that have embraced a Grand Challenge and to inspire more people to do so. We see important roles for many different types of organizations.

*Government agencies:* In the same way that the Department of Energy is pursuing SunShot to make solar energy cheaper than coal and DARPA is developing prosthetics that might allow a veteran that has lost his arms to play the piano again, more agencies could be explicit about setting ambitious and important Grand Challenge goals and then convening funding and private sector commitments to work towards those goals. Governments can also collaborate on international Grand Challenges – particularly as they relate to global development, global health, and global public goods.

*Philanthropists and foundations:* Philanthropists and foundations could organize some of their giving around Grand Challenges. The Gates Foundation is funding Grand Challenges in Global Health, such as vaccines that do not require refrigeration and a single crop that provides all of the nutrients needed for a healthy diet.

*Research universities:* Some universities such as Duke and USC have joined with the National Academy of Engineering to launch the Grand Challenge Scholars Program. This program enables engineering students to organize their coursework, research, service, international studies, and experiential learning around a Grand Challenge. Universities could extend these programs to interdisciplinary teams of students from all disciplines and emphasize ambitious Grand Challenges in their capital campaigns.

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*Companies:* More companies could identify a Grand Challenge they can contribute to. IBM has driven advances in computing and AI by beating Kasparov at chess and Ken Jennings at Jeopardy. Google has recruited Sebastian Thrun, the Stanford researcher who won DARPA's Grand Challenge competition for unmanned vehicles, and is making significant investments in self-driving cars.

Additional companies and philanthropists are getting involved by sponsoring a major incentive prize. Progressive Insurance, for example, sponsored the \$10 million Automotive X Prize for the teams that could build a car that gets the equivalent of 100 miles per gallon. We will hear today from Rick Valencia about how Qualcomm is sponsoring a \$10 million Tricorder X Prize to develop a portable wireless device that can monitor and diagnose a broad range of health conditions.

Larger companies could also partner with start-ups that are pursuing ambitious goals by serving as early customers and providing capital, mentoring, and milestone-based payments.

*Investors:* Some venture capitalists are investing in startups that are pursuing Grand Challenges. The Founders Fund, for example, is focused on "smart people solving different science and engineering challenges," such as lowering the cost of space launch costs by a factor of ten; dramatically reducing the time, cost, and uncertainty associated with the drug development process; and machine intelligence that can replicate components of human intelligence. Flagship Ventures is investing in a startup called Essentient, which has stated that its technology could provide enough protein for everyone on the planet in an area the size of Rhode Island.

Financial innovations could also increase the extent to which institutional investors could help address Grand Challenges. Andrew Lo and his colleagues at the MIT Laboratory for Financial Engineering have developed a proposal for a \$5 - \$15 billion cancer mega-fund that they believe would generate attractive returns for pension funds and life insurance companies and would significantly increase the capital available to find cures and better treatments for cancer.

The field of "impact investing" is creating opportunities for investors to back firms and social enterprises that can generate both financial and social returns.

*America's storytellers:* Media companies and America's storytellers could help elevate the role that Grand Challenges and innovators play in our culture. Dean Kamen observed that in a free society, you get what you celebrate. How many Americans can name a living scientist or engineer? What could Hollywood and our creative talent do to help make engineers and entrepreneurs the rock stars of the 21<sup>st</sup> century?

We should also recognize the important role played by science fiction. There are many instances in which science fiction – from Arthur C. Clarke's communications satellites, to the Star Trek replicator, to the user interface in the Minority Report – has inspired scientists and engineers. Things that may seem like science fiction one day – like a cloak of invisibility or a tricorder –

*Thomas Kalil, prepared remarks at the Information Technology and Innovation Foundation, April 12, 2012, Washington, DC*

can rapidly become science fact. That is why I am delighted that Neal Stephenson and other science fiction writers have started a project called Hieroglyph to depict future worlds in which Big Stuff Gets Done. We used to say, "I'll believe it when I see it." But increasingly it is the case that, "I'll see it when I believe it."

In conclusion, I ask you: What Grand Challenges do you believe deserve more attention? I encourage you to share your feedback and ideas with me and via email to [challenges@ostp.gov](mailto:challenges@ostp.gov). What Grand Challenges are you motivated to work towards?

Thank you.

###

## WHAT IF?

### Clean Energy

Solar cells compete with coal and natural gas generation before the end of the decade

Building energy use is cut in half within a decade

Buildings and industries continuously monitor performance, diagnose problems, and summon repair crews before problems become serious

Meters provide continuous detailed information about the energy consumption of every device and provide users information only when and where it can be useful

Utilities can make as much money saving a kilowatt hour as generating a kilowatt hour

The equivalent of Saudi Arabia's oil production is replaced by biomass

Nuclear reactors are safe, affordable, and easy to site almost anywhere

Electric vehicles travel for 300 miles, and "filling up" with electrons is cheaper than gasoline at \$3 a gallon

We make 10 high-volume products that are "carbon-negative" – turning carbon dioxide into a valuable raw material as opposed to pollution

Business travel miles are cut in half by the use of virtual presence technologies

Non-food crop can be used to produce liquid fuels, electricity, animal feed products, and industrial materials anywhere in the country, tailored for each local area

We can eliminate radioactive waste from nuclear power generation

Deep water wind farms on our coasts and great lakes that compete with coal and natural gas

Strong, lightweight materials now used only by NASA and the military cheap enough to use for cars, trucks, and wind machines

### Education and Training

A \$100 e-reader can read a child 10,000 stories in the voice of their favorite celebrity, dramatically reducing the gap in vocabulary size between children from rich and poor households

*Thomas Kalil, prepared remarks at the Information Technology and Innovation Foundation,  
April 12, 2012, Washington, DC*

Every child has access to educational software as effective as a personal tutor and as engaging as the best video game

A digital tutor allows recent high school graduates to gain the skills and an industry-recognized certificate they need to increase their income by 50 -100 percent in 4 months

Individuals can find online education and training materials tailored to their exact needs quickly and easily

## **Environment**

Microbes or nanotechnology lower the cost and time required to clean up waste by 50 percent

Millions of cell-phones with sensors that cost under a dollar help create a real- time “dashboard” for the planet

Industry and university researchers create green substitutes for dozens of the most toxic chemicals

All 10 million+ species on the planet are catalogued in a DNA library, enabling the developing of new products such as life-saving drugs

Green chemists can create plastics competitive at the commodity scale that require less energy to produce and, after serving their purpose, rapidly biodegrade to non-toxic materials

## **Health**

Patients and healthcare providers have the technology, techniques and incentives to reduce the costs of managing major chronic diseases such as diabetes (or preventing them to begin with) by one-third

Patient information available where it's needed, in the form it's needed, wherever it's needed and safeguarded against misuse. Doctors and patients have access to automated analysis of potential mistakes such as drug interactions.

Smart anti-cancer therapeutics deliver drugs only to tumors, leaving healthy cells untouched

We can sequence the entire human genome in under an hour, delivering rapid personalized medicine

Regenerative medicine routinely replaces damaged tissues or organs – ending the agonizing wait for an organ transplant or repairing spinal cord injuries

We create therapies and vaccines for diseases in months, not years



We accelerate the availability of vaccines for AIDS, TB, and malaria by 10-20 years – diseases which kill 6 million people every year

People with prosthetic legs climb mountains and people with prosthetic arms play the piano

We inexpensively and accurately detect dozens of diseases with a breath, a saliva sample, or a drop of blood

Replacement cartilage is available and safe for treatment of osteoarthritis of knees and hips. People no longer need expensive and painful operations to replace worn joints, and older people can continue to exercise and be independent

Patients can access all of their medical records, get quick responses from providers to questions, and make their own appointments on line

Errors in patient care in hospitals have been reduced to 10% of their current rate

### **Information Technology**

“Do what I mean” computing allows us to program computers and direct software agents using conversational English

Real-time speech translation allows us to talk to or chat with anyone in any language

Smart homes empower seniors to live independently for another 5-10 years

We extend Moore’s Law (doubling computing power every 12 -18 months) for decades to come, enabling us to put a supercomputer on a wrist-watch

Cyberspace has an “immune system” that rapidly and effectively responded to cyber -attacks, worms, and viruses

High-fidelity holographic video-conferencing dramatically reduces the need for air travel

### **Manufacturing**

The US leads the world in producing batteries for electric vehicles, next generation lighting, solar cells, next generation heat pumps, blades and generators for wind machines

US firms define the state of the art in the next generation of manufacturing methods (bioprocessing, separations at room temperature, waste-free fabrication)

We reduce the time required to design, build and test manufactured products by a factor of 5, while dramatically increasing the number of product designers and entrepreneurs who make things

*Thomas Kalil, prepared remarks at the Information Technology and Innovation Foundation, April 12, 2012, Washington, DC*

We put the tools to design and make just about anything (e.g. 3-D printers, TechShops, Maker Sheds, FabLabs) at the fingertips of every child

We create the foundation for a “bio-economy” that allows us to make dozens of chemicals without petroleum

Teams of workers and robots allow American companies to beat the “China price” for many manufactured products

### **Nanotechnology**

Atomically precise manufacturing allows us to create materials that are stronger than steel and a fraction of the weight

### **National Security**

American soldiers have dozens of “superpowers”, including:

- X-ray vision and the ability to see around corners
- Spiderman’s ability to climb up walls (a number of researchers have been looking at developing nanofibers that mimic the skin of a gecko)
- The ability to command dozens of robots – including flying robots the size of dragonflies
- An exoskeleton that allows them to lift a truck
- A light-weight vest that stops armor-piercing bullets
- The ability to fight for a week without sleep
- Accelerated healing of battle-field wounds
- A cloak of invisibility
- The ability to incapacitate a large angry crowd without casualties

We can detect any IED from a distance of greater than 100 meters

Monitoring for nuclear security is so capable that the US and its partner nations can track (either cooperatively or non-cooperatively) the status of weapons-usable nuclear material and related activities at any location in the world

*Thomas Kalil, prepared remarks at the Information Technology and Innovation Foundation,  
April 12, 2012, Washington, DC*

Our troops fight unconstrained by costly and dangerous oil supply lines, powered in the field by hyper-efficient solar cells, batteries, and fuel cells

### **Small business/entrepreneurship**

Cities in all 50 states use “smart permitting” to allow entrepreneurs to start a business in a day

Students can play a multi-player game that gives them the skills they need to start their own business. Students that successfully complete the game are twice as likely to get financing and to ultimately launch a rapidly growing business.

College graduates choose to join innovative startups in greater numbers than those who go to work in finance or consulting

Startups have seamless access to government data, government-funded innovations, and government contracts

### **Space**

We make Mars habitable using advanced biotechnology, self-replicating robotic factories, and an interplanetary Internet

Suborbital flight is as unremarkable as the DC/NYC shuttle and U.S. companies are regularly and reliably transporting crew into low-Earth orbit

We have the capability to detect and deflect planet-killing asteroids

We can do human missions to Mars in months instead of years

We can predict major storms and natural disasters in time to alert and move the at-risk population

Money made through utilization of near-space capabilities (long-duration, near-space platforms, satellite servicing, propellant depots, space tourism, biomedical & pharmaceutical products) exceeds launch costs by a factor of 10

We have initiated interstellar robotic exploration

### **Transportation**

Self-driving cars reduce traffic fatalities by 80 percent, while freeing up our commute time for work, leisure, or a nap

###

*Thomas Kalil, prepared remarks at the Information Technology and Innovation Foundation,  
April 12, 2012, Washington, DC*

Draft June 25, 2012

**Summary:** This memo argues that the application of information and communications technologies could be playing a larger role in meeting the domestic policy priorities of the Administration. Although IT is not a “silver bullet” for solving the societal challenges faced by the United States, it can be a powerful tool. Under some circumstances, it may be able to deliver results at lower costs than traditional social services. The Administration should consider launching an initiative in this area as part of the FY14 budget process.

### **Examples of IT applications that could help address societal challenges**

*Adult literacy:* The Office of Naval Research has supported research to develop and evaluate “reading tutors” because some recruits enter the Navy with low levels of literacy. One evaluation showed that it was possible to increase reading level skill by two grade levels in under 40 hours for Navy recruits that were reading at under the 8<sup>th</sup> grade level. Further development and evaluation of adult literacy software could help the 90 million adults that have inadequate literacy skills.

*Childhood obesity:* Currently, more than 16.9 percent of children and adolescents are obese. Childhood obesity increases the risks of diseases such as diabetes, hypertension, heart disease, etc. Technology may be able to play a role in reducing childhood obesity. For example, a social enterprise supported by the Omidyar Network developed an online rewards program for young teens, powered by their physical activity. A randomized controlled trial showed that teens with Zamzee move around 30 percent more, the equivalent of nearly an extra marathon per month. Other studies have shown that “exergames” do not impact levels of physical activity, however.

*College Affordability:* Sebastian Thrun, a former Stanford professor, developed an online course in Artificial Intelligence that 23,000 students completed. He taught more students AI than all of the other AI professors put together, and reported a marginal cost of \$1 per additional student. He has launched a start-up called Udacity that is currently offering 11 courses for free, although they are charging for certification which involves taking a test. He believes he can offer a master’s degree for \$100. Although online instruction is certainly not a substitute for all aspects of a residential college, it can expand access to skills that have a value in the marketplace, and help address college affordability. There is an important role for policy in enabling online learning because it may require changes in policy in areas such as competency-based assessment, accreditation of institutions of higher education, financial aid policy, and transfer of credits from online to traditional universities.

*Financial Inclusion:* Mobile financial services such as M-PESA have allowed 15 million Kenyans to transfer money with a text message, and one-third of Kenya’s GDP now flows over M-PESA. USAID and Citibank have just launched a collaboration to provide mobile financial services to more people in developing countries. The Administration should explore whether mobile financial services could reduce the number of unbanked and underbanked in the U.S.

Currently, there are 28 million Americans (many of whom are African -Americans, Hispanics, or immigrants) who are unbanked and 44 million are underbanked.

*Healthcare:* The Administration has already made a large investment in health information technology and electronic medical records, with over \$25 billion in ARRA funding. However, there are many other health IT applications, such as using wearable sensors to improve the management of chronic diseases such as asthma, diabetes, and congestive heart failure.

*K-12 Education:* The research community and a growing number of ed tech entrepreneurs have ideas for how technology might transform teaching and learning. For example, Sal Khan has developed 3,000 educational videos that have been watched half a billion times. Some schools are “flipping” the classroom by having students watch the videos at home and do their homework during school where they can get help from their teachers and peers. Other researchers believe that they can use the huge amount of data that is generated by online learning to (a) personalize education to the needs of an individual student; and (b) more rapidly discover optimal learning pathways to help students master challenging concepts in core academic subjects. The Administration has proposed increasing the Department of Education’s ability to support R&D related to learning technology.

*People with Disabilities:* Information and communications technologies have the potential to improve the independence, quality of life, and employability of people with disabilities. However, many information technologies and online services have not been designed to be accessible. Researchers in the field of accessible IT have proposed developing technologies that automatically translate online content so that it is accessible for people with disabilities.

*School Readiness:* There are large differences in school readiness between children from rich and poor households. For example, there are 198 age-appropriate books per household in Beverly Hills and 0.4 in Watts. There may be a combination of technologies (e.g. low-cost tablet computers, e-books, learning games, speech technology) that could reduce the gap in school readiness between children from rich and poor households, and that would encourage more interaction between low-income children and their caregiver.

*Workforce Development:* Average wages of non-college educated adult males have declined since 1980. Evaluation of the Department of Labor’s workforce development programs has concluded that they increase wages by \$1,800. Early results from a DARPA program called “Education Dominance” suggests that it may be possible to develop advanced training technologies that deliver better results. DARPA sponsored the development of a digital tutor that is allowing new Navy recruits to outperform IT experts that have been with the Navy for 5 or more years. VA is likely to support a pilot project to determine whether use of this digital tutor could dramatically increase the wages and employment of recent veterans by allowing them to get a high-paying job in IT systems administration and troubleshooting.



*Youth Entrepreneurship:* Students should be able not just to get a job but to create jobs. Online learning could help give more young people the knowledge and skills they need to launch their own business.

### **Potential benefits of IT-enabled solutions**

Below are some examples of the potential benefits of IT-enabled services.

1. **Marginal cost = zero.** The marginal cost of making software or digital content and services available to more people is essentially zero. This is why online customers can serve 80 million customers or how a small non-profit like Khan Academy can deliver instructional videos and problem sets to 6 million people. This is in stark contrast to traditional social services, whose cost increases linearly with the number of people served. However, an IT-enabled solution might have a high fixed cost needed to develop the online service or software.
2. **Ability to create an engaging and compelling experience.** For example, good game developers can keep users riveted for hours at a time, and offer an increasingly difficult set of challenges that keep users in the “sweet spot” between being bored and frustrated.
3. **Continuous improvement:** The productivity of most public sector services is flat or negative. Researchers and entrepreneurs have ideas for developing online services that get better the more people use them by (a) conducting many low-cost experiments to discover what works; and (b) collect, analyze and act on the data that can be generated online. For example, CMU has developed online courses that collect data from students and use the data to provide feedback to students, teachers, and course designers.
4. **Anytime, anywhere:** Mobile devices allow individuals to access digital content at a time, place and pace that is convenient for them. This might be particularly important for an adult who is trying to upgrade their skills while balancing the competing demands of work and family.
5. **Mass collaboration:** The Internet allows people with shared interests to accomplish things that would be impossible for individuals. For example, Wikipedians have created an online encyclopedia with almost 4 million English articles.
6. **Online organizing for offline participation:** Several non-profits such as Kaboom (helping communities build safe playgrounds) have been able to accelerate their adoption of their model by creating detailed online playbooks and recruiting volunteers.

7. **Encouraging behavior change:** Researchers are beginning to develop online services that promote behavior change. For example, ARPA -E has sponsored the development of a video game that encourages people to save money on their electricity bill.
8. **Personalization:** Researchers and firms are developing software and online services that are personalized to the needs, background, interests and skill levels of individuals.
9. **Combinatorial innovation:** IT is benefitting from what Google chief economist Hal Varian calls “combinatorial innovation” – the innovation that arises from novel combinations of different technological building blocks. Entrepreneurs now mix and match hundreds of different technologies and capabilities to address particular market niches, such as cloud computing, mobile devices, social media, machine learning, online marketplaces, simulation, data visualization, question -answering, and platforms for mass collaboration. These capabilities also provide a rich palette for improving the human condition in new and creative ways.

### **Role for the federal government**

One issue is whether there is an appropriate role for the government in promoting the development, evaluation and widespread use of IT applications that solve societal problems. Some might argue that private sector investment will be sufficient to develop the applications described above. Clearly, the government should not act without understanding (a) what products and services are commercially available; (b) what the private sector is willing to invest in; and (c) whether there are market failures.

Appropriate roles for the government might include:

- Sponsor rigorous evaluation of IT-enabled solutions to determine whether they are effective, and if so, whether they are cost-effective relative to other interventions as measured by outcome per dollar. The Institute for Education Sciences has funded some evaluation of commercially-available educational software, for example.
- Fund R&D that is designed to increase the contribution that IT can make in addressing a particular societal challenge. For example, DARPA’s support of the Education Dominance program may have demonstrated that it is possible to reduce the time required to acquire a technical skill from years to months, and to dramatically increase the wages of workers with a high-school degree. The Administration has proposed funding for a “DARPA for Education” as part of its FY13 budget request.
- Use “pull” mechanisms in which the government establishes a goal and provides funding to the team that can achieve the goal. Examples of this pull mechanism include prizes,

Advance Market Commitments, milestone payments, and “pay for success” bonds. Under the AMERICA COMPETES legislation, all agencies have the authority to support prizes of up to \$50 million.

- Recruit individuals that can play a leadership role on these issues to the federal government.
- Increase the availability of government information and encouraging developers to create applications that add value to this data. HHS’s Health Data Initiative has been highly successful, and US CTO Todd Park is replicating this model in other areas such as energy, education, and public safety.
- Issue a “call to action” to companies and philanthropists to increase their investments in these areas. The Administration has been successful in using its convening authority to develop high-impact multi-sector collaborations in areas such as high-growth entrepreneurship (Startup America Partnership), K-12 education (Change the Equation), and preparing and recruiting 100,000 STEM teachers (100kin10).
- Identify legal and regulatory barriers to the adoption of IT-enabled solutions, such as the current interplay between student financial aid, accreditation of institutions of higher education, and assessment based on student credit-hours.
- Serve as an “early adopter” of a technology.

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**From:** Edelman, R. David  
**Sent:** Monday, November 12, 2012 7:57 PM  
**To:** Jon Orwant  
**Subject:** RE: Google Cambridge visit

Jon,

Fantastic. Shall we say 10:00am Friday?

Cheers,  
-David

**From:** Jon Orwant [mailto:(b) (6)]  
**Sent:** Monday, November 12, 2012 4:30 AM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton; George Ivanov  
**Subject:** Re: Google Cambridge visit

Hi David,

Friday works; I've got a big block free in the middle of the day, so why don't you pick a convenient time.

We're at 5 Cambridge Center, and Google reception is on the 4th floor.

Jon

On Sat, Nov 10, 2012 at 5:41 PM, Edelman, R. David (b) (6) wrote:

Thanks, Johanna.

Jon, great to make your acquaintance. Word on the Google street is that you are THE person to discuss these issues, and in a fortuitous coincidence, I find myself in Cambridge late next week. Hoping we could have an informal chat if you're free – perhaps Friday? Let me know if you have some time. Happy to swing by your office; I'll be mobile.

Cheers,

**R. David Edelman**

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 6:08 PM  
**To:** Edelman, R. David; Jon Orwant  
**Cc:** George Ivanov  
**Subject:** Google Cambridge visit

David - per our conversation, I wanted to connect you to Jon Orwant, a longtime Google engineering manager in Cambridge. I hope you two can find a convenient time late next week for you to swing by our Cambridge office and talk to Jon about some of the work his team does.

Have a great trip to beantown!



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**From:** Kalil, Thomas A.  
**Sent:** Monday, November 12, 2012 10:03 AM  
**To:** Vint Cerf  
**Subject:** E-mail to Google X  
**Attachments:** bam-neuron.pdf

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**From:** Kalil, Thomas A.  
**Sent:** Saturday, November 10, 2012 7:13 PM  
**To:** 'Will Patrick'  
**Cc:** Astro Teller; Megan Smith; Dorgelo, Cristin  
**Subject:** RE: Ag idea / moonshot summit?

Dear team:

At least 3 ways in which Google could help – and we are happy to brainstorm with you on these.

1. Have an exciting Grand Challenge to announce in March 2013 that is even more awesome than a self-driving car, AI that recognize cats using unsupervised machine learning, or Project Glass. ☺
  2. Have a promoted/curated YouTube “Grand Challenges” channel. This could include (a) descriptions of big problems in energy, water, health, education, exploration, fundamental science, emerging technologies; (b) vignettes of teams that are pursuing grand challenges. Goal would be to increase grand challenge thinking among general public, students, entrepreneurs, investors, etc.
  3. Google-wide brainstorming.
- If you could call anyone and ask them to embrace a grand challenge – who would you call and what would you ask them to do? E.g.

Department of Energy – SunShot - solar cheaper than coal

Elon Musk/SpaceX – “I want to die on Mars, but not on impact.” Humanity as multi-planetary species.

DARPA – New York to LA in 11 minutes, 100 year Starship.

Neil Gershenfeld, PARC– Replicator

Qualcomm – Tricorder X prize

Pronutria – 10x production in protein production/acre on non-arable land

Acuitus – raise the wages of someone w/o a college degree by \$20,000 in less than 4 months

MOOC Movement – K-20 curriculum available in x major languages for free

Research community in neuroscience, nanoscience, synthetic biology, and optogenetics – Brain Activity Map (see attached article in Neuron)

Maker Education Initiative + hundreds of thousands of skilled volunteers – Every Child a Maker

Neal Stephenson's "Young Lady's Illustrated Primer"

Terraform Mars.

A bottom-up solution to a huge social problem – online organizing for online activism – like 100,000 Homes Campaign

**From:** Will Patrick [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 2:36 PM  
**To:** Kalil, Thomas A.  
**Cc:** Astro Teller; Megan Smith  
**Subject:** Ag idea / moonshot summit?

Hi Tom,

First - congrats on the re-election!

I wanted to follow up with you on a few things ...

- (1) Regina Dugan mentioned that you might know of a moonshot around growing ag products much more densely. Is that case? If so, that sounds pretty interesting to us - a possible Solve for X talk?
- (2) I believe you delayed the 'grand challenge summit' until after the election. Let us know how we can help with that.
- (3) We're super happy to have you out here for Solve for X 2013 - we'll be following up with registration details in a couple weeks. As reminder the event is Feb 6-8 (save the date is below).

Cheers,  
Will

# SOLVE FOR <X>

A forum to encourage and amplify technology-based  
moonshot thinking and teamwork.

SAVE THE DATE

"Any sufficiently advanced technology is  
indistinguishable from magic."

-Arthur C. Clark

We invite you to join us on February 6-8, 2013 for **Solve for X**, an intimate event for a small group of exceptional scientists, entrepreneurs, and technologists, to discuss and debate audacious science and technology projects designed to radically improve the world.

We look forward to having you join us.

**Eric Schmidt, Megan Smith and Astro Teller**

[www.wesolveforx.com](http://www.wesolveforx.com)

## location

Cordevalle Resort  
One Cordevalle Club Drive  
San Martin, CA 95046

## accommodations

Hotel accommodations will be  
provided for attendees on  
Wednesday, February 6 –  
Thursday, February 8.

## schedule

Wednesday, February 6 –  
Friday, February 8, 2013  
Opening reception on Wednesday before dinner  
with closing remarks on Friday afternoon.\*

\*The schedule is still being finalized--more details to follow with formal invite in coming weeks.  
This is an invitation-only event. Your invite is non-transferable.

# The Brain Activity Map Project and the Challenge of Functional Connectomics

A. Paul Alivisatos,<sup>1</sup> Miyoung Chun,<sup>2</sup> George M. Church,<sup>3</sup> Ralph J. Greenspan,<sup>4</sup> Michael L. Roukes,<sup>5</sup> and Rafael Yuste<sup>6,\*</sup>

<sup>1</sup>Materials Science Division, Lawrence Berkeley National Lab and Department of Chemistry, University of California, Berkeley

<sup>2</sup>The Kavli Foundation

<sup>3</sup>Department of Genetics and Wyss Institute, Harvard Medical School

<sup>4</sup>Kavli Institute for Brain and Mind, UCSD

<sup>5</sup>Physics, Applied Physics, & Bioengineering and The Kavli Nanoscience Institute, Caltech

<sup>6</sup>HHMI, Department Biological Sciences, Kavli Institute for Brain Science, Columbia University

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DOI 10.1016/j.neuron.2012.06.006

The function of neural circuits is an emergent property arising from the coordinated activity of large numbers of neurons. To capture this, we propose launching a large-scale, international public effort, the Brain Activity Map Project, aimed at reconstructing the full record of neural activity across complete neural circuits. This technological challenge could prove to be an invaluable step toward understanding fundamental and pathological brain processes.

"The behavior of large and complex aggregates of elementary particles, it turns out, is not to be understood in terms of a simple extrapolation of the properties of a few particles. Instead, at each level of complexity entirely new properties appear." —*More Is Different*, P.W. Anderson

"New directions in science are launched by new tools much more often than by new concepts. The effect of a concept-driven revolution is to explain old things in new ways. The effect of a tool-driven revolution is to discover new things that have to be explained." —*Imagined Worlds*, Freeman Dyson

## Emergent Properties of Brain Circuits

Understanding how the brain works is arguably one of the greatest scientific challenges of our time. Although there have been piecemeal efforts to explain how different brain regions operate, no general theory of brain function is universally accepted. A fundamental underlying limitation is our ignorance of the brain's microcircuitry, the synaptic connections contained within any given brain area, which Cajal referred to as "impenetrable jungles where many investigators have lost themselves" (Ramón y Cajal, 1923). To explore these jungles, neuroscientists

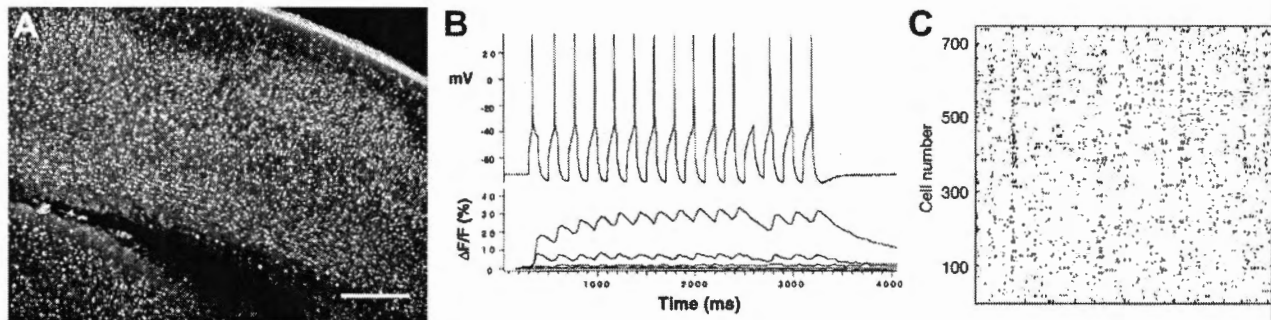
have traditionally relied on electrodes that sample brain activity only very sparsely—from one to a few neurons within a given region. However, neural circuits can involve millions of neurons, so it is probable that neuronal ensembles operate at a multineuronal level of organization, one that will be invisible from single neuron recordings, just as it would be pointless to view an HDTV program by looking at a just a few pixels on a screen.

Neural circuit function is therefore likely to be *emergent*—that is, it could arise from complex interactions among constituents. This hypothesis is supported by the well-documented recurrent and distributed architecture of connections in the CNS. Indeed, individual neurons generally make and receive synaptic contacts from thousands of other neurons. In distributed circuits, the larger the connectivity matrix, the greater the redundancy within the network and the less important each neuron is. Despite these anatomical facts, neurophysiological studies continue to gravitate toward detailed descriptions of the stable feature selectivity of *individual* neurons, a natural consequence of single-electrode recordings. However, given their distributed connections and their plasticity, neurons are likely to be subject to continuous, dynamical rearrangements, participating at different times in different ensembles. Because of this, measuring emergent

functional states, such as dynamical attractors, could be more useful to characterize the functional properties of a circuit than recording receptive field responses from individual cells. Indeed, in some instances where large-scale population monitoring of neuronal ensembles has been possible, emergent circuit states have not been predictable from individual cell responses.

Emergent-level problems are not unique to neuroscience. Breakthroughs in understanding complex systems in other fields have come from shifting the focus to the emergent level. Examples include statistical mechanics, nonequilibrium thermodynamics, many-body physics, and quantum physics. Emergent-level analysis has led to rich branches of science describing novel states of matter involving correlated particles, such as magnetism, superconductivity, superfluidity, quantum Hall effects, and macroscopic quantum coherence. In biological sciences, the sequencing of genomes and the ability to simultaneously measure genome-wide expression patterns enable emergent models of gene regulation, developmental control, and disease states with enhanced predictive accuracy.

We believe similar emergent-level richness is in store for circuit neuroscience. An emergent level of analysis appears to us crucial for understanding brain circuits. Likewise, the pathophysiology of mental



**Figure 1. Calcium Imaging of Neuronal Activity**

(A) Living brain slice from primary visual cortex of a mouse stained with the calcium indicator fura-2 AM. More than a thousand neurons are labeled and can be imaged with a two-photon microscope. From Yuste et al. (2011).

(B) The calcium concentration in the soma of a neuron (bottom) faithfully tracks the electrical firing pattern of the cell (top). From Smetters et al. (1999).

(C) Reconstructed "raster plot" of the spontaneous spiking activity of 754 cells from a similar experiment. From Cossart et al., 2003.

illnesses like schizophrenia and autism, which have been resistant to traditional, single-cell level analyses, could potentially be transformed by their consideration as emergent-level pathologies.

### The Brain Activity Map as the Functional Connectome

To elucidate emergent levels of neural circuit function, we propose to record every action potential from every neuron within a circuit—a task we believe is feasible. These comprehensive measurements must be carried out over time-scales on which behavioral output, or mental states, occur. Such recordings could represent a complete functional description of a neural circuit: a Brain Activity Map (BAM). This mapping will transcend the "structural connectome," the *static* anatomical map of a circuit. Instead, we propose the *dynamical* mapping of the "functional connectome," the patterns and sequences of neuronal firing by all neurons. Correlating this firing activity, both with the connectivity of the circuit and with its functional or behavioral output, including manipulation of those circuits, could enable the understanding of neuronal codes and their regulation of behavior and mental states. This emergent level of understanding could also enable accurate diagnosis and restoration of normal patterns of activity to injured or diseased brains, foster the development of broader biomedical and environmental applications, and potentially generate a host of associated economic benefits.

### Imaging Every Spike from Every Neuron

To achieve this vision, one clearly needs to develop novel technologies. To date, it has not been possible to reconstruct the full activity patterns of even a single region of the brain. While imaging technologies like fMRI or MEG can capture whole-brain activity patterns, these techniques lack single-cell specificity and the requisite temporal resolution to permit detection of the neuronal firing patterns. To preserve single-cell information while recording the activity of complete circuits, vigorous efforts be launched to massively upscale the capabilities of both imaging and nanoprobe sensing.

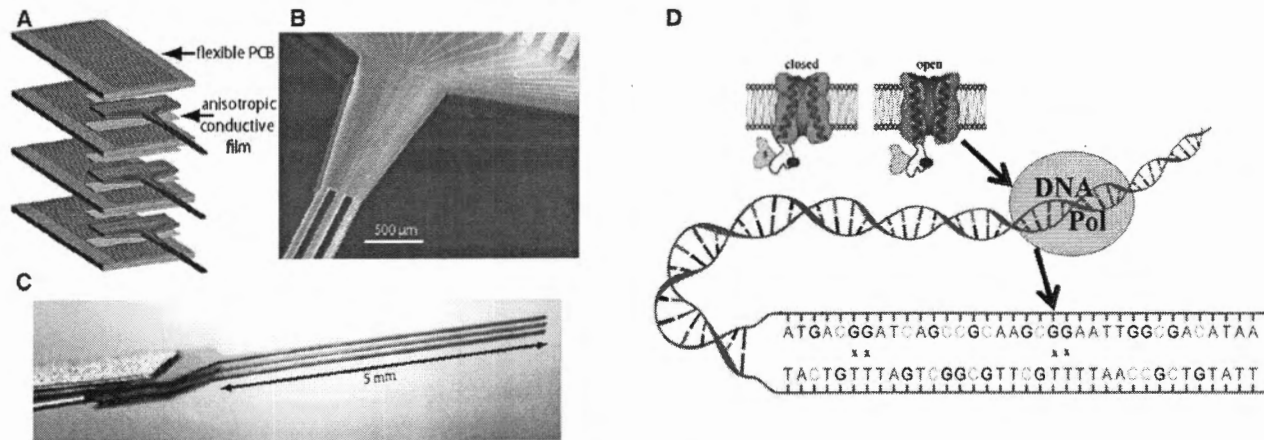
Over the last two decades, neuroscientists have made transformational advances in techniques to monitor the activity of neuronal ensembles, *in vitro* and *in vivo*. Optical techniques are minimally invasive and can provide great spatial and temporal flexibility, have single-cell resolution, and can be applied to living preparations, even awake behaving ones (Helmchen et al., 2011). Calcium imaging can measure the multineuronal activity of a circuit (Yuste and Katz, 1991) (Figure 1), and despite a limited time resolution, this technique can partially reconstruct firing patterns of large (>1,000) populations of neurons *in vitro* or *in vivo* (Grienberger and Konnerth, 2012).

Calcium imaging, while useful, can only approximate the real functional signals of neurons, and it is preferable to capture the complete activity of a circuit by voltage imaging (Peterka et al., 2011). Current

methods for voltage imaging in vertebrate circuits, however, cannot capture action potentials at a large-scale with single-cell resolution. Novel voltage sensors with better signal-to-noise, less photodamage, and faster temporal resolution are needed. Continued improvements are being made in voltage indicators, and particularly promising are nanoparticles, small inorganic compounds that have large absorption and highly efficient emission. These are robust during extended illumination and can be very sensitive to the external electric field. Zero-dimensional nanoparticles, i.e., quantum dots, could be directly used to measure voltage in neurons. Other nanoparticles, such as nanodiamonds (Mochalin et al., 2012), may provide an even higher sensitivity to magnetic and electric fields. In addition, by acting as "antennas" for light, nanoparticles can greatly enhance optical signals emitted by more traditional voltage reporters.

But regardless of the method chosen for imaging neuronal activity, to capture all spikes from all neurons, one needs to increase the number of imaged neurons and extend the depth of the imaged tissue. A variety of recent advancements in optical hardware and computational approaches could overcome these challenges (Yuste, 2011). Novel methods include powerful light sources for two-photon excitation of deep tissue, faster scanning strategies, scanless approaches using spatio-light-modulators to "bathe" the sample with light, high-numerical aperture objectives





**Figure 2. Nanoprobes, Wireless, and Synthetic Biology Technologies for the BAM Project**

(Left) Silicon nanoprobe arrays (after Du et al., 2009). (A) Flip-chip assembly scheme for connecting the silicon devices with printed circuit boards. (B) SEM micrograph of the rear section of a 50- $\mu$ m-thick shaft array showing the multilayer stacked structure. Adjacent layers have a spacing of 100  $\mu$ m, which is set by the thickness of the flexible cable. (C) Side view of the 50- $\mu$ m-thick shaft array showing that the shafts are stress balanced and are able to retain approximately constant relative spacing. (Right) Synthetic biology approaches. (D) A voltage sensitive calcium channel influences the error rate of an engineered DNA polymerase. X marks sites of mismatch between “T” in the template strand (lower) and “G” new copy strand. Note scale of the various devices and cells.

with large fields of view, engineered point spread functions and adaptive optics corrections of scattering distortions, light-field cameras to reconstruct signals emanating in 3D, and, finally, advances in computational optics and smart algorithms that use prior information of the sample. A combination of many of these novel methods may allow simultaneous 3D imaging of neurons located in many different focal planes in an awake animal. Finally, GRIN fibers and endoscopes allow imaging deeper structures, such as the hippocampus, albeit with some invasiveness.

#### Large-Scale Electrical Recordings with Nanoprobes

Electrical recording neuronal activity is now becoming possible on a massively parallel scale by harnessing novel developments in silicon-based nanoprobes (Figure 2). Silicon-based neural probes with several dozen electrodes are already available commercially; it is now feasible to record from dozens of sites per silicon neural probe, densely, at a pitch of tens of  $\mu$ m (Du et al., 2009). Stacking of two-dimensional multishank arrays into three-dimensional probe arrays would provide the potential for hundreds of thousands of recording sites. There are technical hurdles to be surmounted, but when the technology is perfected,

recording from many thousands of neurons is conceivable with advanced spike-sorting algorithms. The holy grail will be to record from millions of electrodes, keeping the same bandwidth, reducing the electrode pitch down to distances of  $\sim 15$   $\mu$ m, and increasing the probe length to cortical dimensions of several centimeters. This will require significant innovation in systems engineering.

#### Wireless and Synthetic Biology Approaches

We also envision techniques for wireless, noninvasive readout of the activity of neuronal populations (Figure 2). These might include wireless electronic circuits based on silicon very large-scale integration (VLSI), synthetic biological components, or their hybrids. It is easy to underestimate the potential of today’s microelectronic technology, and we think that it will ultimately become feasible to deploy small wireless microcircuits, untethered in living brains, for direct monitoring of neuronal activity, although there are significant technological challenges.

As an alternative to silicon VLSI, synthetic biology might provide an interesting set of novel techniques to enable noninvasive recording of activity (Figure 2). This could be considered a wireless option, albeit a radically different one. For

example, DNA polymerases could be used as spike sensors since their error rates are dependent on cation concentration. Prechosen DNA molecules could be synthesized to record patterns of errors corresponding to the patterns of spikes in each cell, encoded as calcium-induced errors, serving as a “ticker-tape” record of the activity of the neuron. The capability of DNA for dense information storage is quite remarkable. In principle, a 5- $\mu$ m-diameter synthetic cell could hold at least 6 billion base pairs of DNA, which could encode 7 days of spiking data at 100 Hz with 100-fold redundancy.

#### A BAM Project Roadmap and Choice of Species

We envision that, for any given circuit, the reconstruction of activity might proceed in three steps. First, initial mapping could be done using calcium imaging with spiking reconstruction carried out at 100 Hz. This could be performed with improvements to existing methods. The second step would involve voltage imaging of action potentials (and subthreshold electrical activity), and one could ideally measure action potentials with a temporal resolution of 1 kHz. These first two steps could be carried out in 3D yet they would be limited to superficial structures ( $<2$  mm deep). In a third step, similar reconstructions of neuronal activity, but penetrating

deep into brain circuits, could be performed. These would first be achieved with massively multiplexed nanoprobes, later complemented by novel wireless approaches.

But which circuits should be worked on, and in which order? We envision parallel efforts on several different preparations—progressing from reconstructing the activity of small, simple circuits to more complicated, larger ones. For example, in the short term (5 years), one could reconstruct the activity of a series of small circuits, all less than 70,000 neurons, from model organisms. *C. elegans* is the only complete connectome (302 neurons and 7,000 connections) (White et al., 1986), and all of its neurons could be imaged simultaneously with two-photon imaging and genetic calcium indicators. In addition, one could reconstruct the entire activity pattern of a discrete region of the *Drosophila* brain, such as the medulla, with ~15,000 neurons. The *Drosophila* connectome is currently 20% complete at the mesoscale (Chiang et al., 2011), and could be finalized within three years. Finally, for vertebrate circuits, short-term goals could include imaging the activity of all the ganglion cells in a mouse retina (~50,000 neurons), the mitral cells in the mouse olfactory bulb (~70,000), or a mouse neocortical brain slice (~40,000, optically accessible neurons).

For midterm goals (10 years), one could image the entire *Drosophila* brain (135,000 neurons), the CNS of the zebrafish (~1 million neurons), or an entire mouse retina or hippocampus, all under a million neurons. One could also reconstruct the activity of a cortical area in a wild-type mouse or in mouse disease models. Finally, it would be also interesting to consider mapping the cortex of the Etruscan shrew, the smallest known mammal, with only a million neurons.

For a long-term goal (15 years), we would expect that technological developments will enable the reconstruction of the neuronal activity of the entire neocortex of an awake mouse, and proceed toward primates. We do not exclude the extension of the BAM Project to humans, and if this project is to be applicable to clinical research or practice, its special challenges are worth addressing early. Potential options for a human BAM

Project include wireless electronics, safely and transiently introducing engineered cells to make tight (transient) junctions with neurons for recording and possibly programmable stimulation, or a combination of these approaches.

#### Computational Analysis and Modeling

Our stated goal of recording every spike from every neuron raises the specter of a data deluge, so development of proactive strategies for data reduction, management, and analysis are important. To estimate data storage capacities required for the BAM we consider the anatomical connectome. Bock et al. (2011) have reconstructed 1,500 cell bodies with  $1 \times 10^{13}$  pixels (Bock et al., 2011). By analogy we can estimate that  $7 \times 10^6$  mouse cortical cells would require  $\sim 5 \times 10^{16}$  bytes. This is less data than the current global genome image data. Some might argue that analogies to genomics are limited in that brain activity is of much higher dimensionality than linear genomics sequences. But high-dimensional, dynamic transcriptome, immunome, and whole-body analyses are increasingly enabled by plummeting costs.

Brains are complex dynamical systems with operations on a very wide range of timescales, from milliseconds to years. Brain activity maps, like the broader omics and systems biology paradigms, will need (1) combinatorics, (2) the state dependence of interactions between neurons, and (3) neuronal biophysics, which are extremely varied, adapted, and complex. We envision the creation of large data banks where the complete record of activity of entire neural circuits could be freely downloadable. This could spur a revolution in computational neuroscience, since the analysis and modeling of a neural circuit will be possible, for the first time, with a comprehensive set of data. As the Human Genome Project generated a new field of inquiry ("Genomics"), the generation of these comprehensive data sets could enable the creation of novel fields of neuroscience.

#### Data Access and Ethical Considerations

We feel strongly that an effort such as the BAM Project should be squarely put in the public domain. Because it will require

large-scale coordination between many participants and the information will benefit mankind in many ways, it makes sense for this project to be run as a public enterprise with unrestricted access to its resulting data.

There are potential ethical ramifications of the BAM Project that will arise if this technology moves as swiftly as genomics has in the last years. These include issues of mind-control, discrimination, health disparities, unintended short- and long-term toxicities, and other consequences. Well in advance, the scientific community must be proactive, engaging diverse sets of stakeholders and the lay public early and thoughtfully.

#### Outcomes and Anticipated Benefits

The BAM Project will generate a host of scientific, medical, technological, educational, and economic benefits to society. Indeed, the widespread effect of this research underscores the need for it to be controlled by the public.

In terms of anticipated scientific benefits, the generation of a complete functional description of circuits will be invaluable to address many outstanding questions in neuroscience for which emergent functional properties could be key (Table 1). Together, answers to these questions can open the doors to deciphering the neural code, or to disproving the existence of a neural code altogether, as well as unlocking the possibility of reverse-engineering neural circuits.

In addition to promoting basic research, we anticipate that the BAM Project will have medical benefits, including novel and sensitive assays for brain diseases, diagnostic tools, validation of novel biomarkers for mental disease, testable hypotheses for pathophysiology of brain diseases in animal models, and development of novel devices and strategies for fine control brain stimulation to rebalance diseased circuits. Not least, we might expect novel understanding and therapies for diseases such as schizophrenia and autism.

Many technological breakthroughs are bound to arise from the BAM Project, as it is positioned at the convergence of biotechnology and nanotechnology. These new technologies could include optical techniques to image in 3D; sensitive, miniature, and intelligent

**Table 1. Outstanding Questions in Neuroscience for Which Emergent Functional Properties Could Be Key**

Are there circuit attractors?

What is the functional connectivity diagram of a circuit?

What detailed computations take place locally?

What are the real-time, multiple, long-range interactions that underlie cognitive functions and behavior?

How do local computations and long-range interactions influence each other?

What are the paths of information flow?

Do alternative pathways produce similar outputs?

When the brain "organizes" itself during development, or "reorganizes" itself after an injury, what is actually happening to activity locally and globally?

When pharmacologic drugs alter behavior, what are the local and global effects on activity?

When memories are transferred from one brain region to another over time, how do activity patterns change?

What design principles can be discerned in how the brain functions?

Is there an underlying functional architecture to the brain's networks?

What are the true functional underpinnings of perception, recognition, emotion, understanding, consciousness, and subconscious processes?

nanosystems for fundamental investigations in the life sciences, medicine, engineering, and environmental applications; capabilities for storage and manipulation of massive data sets; and development of biologically inspired, computational devices.

As in the Human Genome Project, where every dollar invested in the U.S. generated \$141 in the economy (Battelle, 2011), technological and computing innovations developed in the course of the BAM project will provide economic benefits, potentially leading to the emergence of entirely new industries and commercial ventures. If the Genome Project was "arguably the single most influential investment to have been made in modern science" (Battelle, 2011), the BAM Project, we believe, will have comparable ramifications.

Finally, we should not underestimate the repercussions that such a project could have for education. The proposed activities are broadly interdisciplinary

and will lead to the training of a new generation of scientists and the opening up of new strategies for evaluating pedagogical effectiveness.

#### A Call for a Community Effort

To succeed, the BAM Project needs two critical components: strong leadership from funding agencies and scientific administrators, and the recruitment of a large coalition of interdisciplinary scientists. We believe that neuroscience is ready for a large-scale functional mapping of the entire brain circuitry and that such mapping will directly address the emergent level of their function, shining much-needed light into the "impenetrable jungles" of the brain.

#### ACKNOWLEDGMENTS

This collaboration arose from a workshop held at Chicheley Hall, the Kavli Royal Society International Centre, supported by The Kavli Foundation, the Gatsby Charitable Foundation, and the Allen Institute for Brain Science. We also thank A.S. Chiang, K. Deisseroth, S. Fraser, C. Koch,

E. Marder, O. Painter, H. Park, D. Peterka, S. Seung, A. Siapas, A. Tolias, and X. Zhuang—participants at a smaller, subsequent Kavli Futures Symposium, where initial ideas were jointly refined. We acknowledge support from the DOE (A.P.A.), NHGRI (G.M.C.), NIH and the Mathers Foundation (R.J.G.), NIH and Fondation pour la Recherche et l'Enseignement Supérieur, Paris (M.L.R.), and the Keck Foundation and NEI (R.Y.).

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# SOLVE FOR <X>

A forum to encourage and amplify technology-based moonshot thinking and teamwork.

SAVE THE DATE

"Any sufficiently advanced technology is indistinguishable from magic."

-Arthur C. Clark

We invite you to join us on February 6-8, 2013 for **Solve for X**, an intimate event for a small group of exceptional scientists, entrepreneurs, and technologists, to discuss and debate audacious science and technology projects designed to radically improve the world.

We look forward to having you join us.

**Eric Schmidt, Megan Smith and Astro Teller**

[www.wesolveforx.com](http://www.wesolveforx.com)

## location

Cordevalle Resort  
One Cordevalle Club Drive  
San Martin, CA 95046

## accommodations

Hotel accommodations will be provided for attendees on Wednesday, February 6 – Thursday, February 8.

## schedule

Wednesday, February 6 –  
Friday, February 8, 2013

Opening reception on Wednesday before dinner  
with closing remarks on Friday afternoon.\*

\* The schedule is still being finalized—more details to follow with formal invite in coming weeks.  
This is an invitation-only event. Your invite is non-transferable.

---

**From:** Edelman, R. David  
**Sent:** Tuesday, November 13, 2012 11:16 AM  
**To:** (b) (6)  
**Subject:** Re: quick question

Tentatively:

Me  
Tom Kalil, OSTP  
Andrew Cedar (NSS Dir for Global Engagement)  
Victoria Espinel  
Possibly: Todd Park  
Possibly: Jason Furman or Greg Nelson, NEC

Also, Vivian will be in touch momentarily, as she needs some clarification on your clearance info . Thanks!

---

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 13, 2012 09:57 AM  
**To:** Edelman, R. David  
**Subject:** quick question

do you know who on your end will be at the 3pm YouTube meeting?

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)



---

**From:** Edelman, R. David  
**Sent:** Tuesday, November 13, 2012 1:54 PM  
**To:** Johanna Shelton  
**Cc:** Palfrey, Quentin  
**Subject:** RE: Where is the 2pm patent mtg?

Sorry went into spam box. EEO (b) . See you soon.

Thanks,  
-David

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 13, 2012 12:30 PM  
**To:** Edelman, R. David  
**Subject:** Where is the 2pm patent mtg?

Room #?

Thanks

---

**From:** Edelman, R. David  
**Sent:** Tuesday, November 13, 2012 2:04 PM  
**To:** (b) (6)  
**Subject:** Re: Where is the 2pm patent mtg?

Come on up, see you i (b) (6)

---

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 13, 2012 12:30 PM  
**To:** Edelman, R. David  
**Subject:** Where is the 2pm patent mtg?

Room #?

Thanks

---

**From:** Edelman, R. David  
**Sent:** Wednesday, November 14, 2012 12:27 PM  
**To:** Johanna Shelton  
**Subject:** RE: Thanks for yesterday's mtg

Johanna,

It was my pleasure. Even we rarely get the chance to have all those perspectives in the room – let alone at that level – and it was a lot of fun to discuss. I hope that Salar enjoyed his time (and his awards banquet!) and I look forward to keeping in touch with him and the team into the future.

That reminds me: as our principals' schedules are getting very tight with Fiscal Cliff, do you anticipate any other senior leadership DC swings between now and the new year?

Cheers,  
-David

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Wednesday, November 14, 2012 11:57 AM  
**To:** Edelman, R. David  
**Subject:** Thanks for yesterday's mtg

David - thanks again for all your effort for yesterday's meetings - especially Salar's meeting. From my perspective, it was fascinating to have all those folks in one place! Let me know if there is any followup on your end - and have fun at MIT.







---

**From:** Edelman, R. David  
**Sent:** Friday, November 16, 2012 10:03 AM  
**To:** (b) (6)  
**Subject:** Re: Google Cambridge visit

Running a tad late (traffic) -- there in 5-8. Apologies.

---

**From:** Jon Orwant [mailto:(b) (6)]  
**Sent:** Monday, November 12, 2012 04:30 AM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton (b) (6); George Ivanov (b) (6)  
**Subject:** Re: Google Cambridge visit

Hi David,

Friday works; I've got a big block free in the middle of the day, so why don't you pick a convenient time.

We're at 5 Cambridge Center, and Google reception is on the 4th floor.

Jon

On Sat, Nov 10, 2012 at 5:41 PM, Edelman, R. David (b) (6) wrote:

Thanks, Johanna.

Jon, great to make your acquaintance. Word on the Google street is that you are THE person to discuss these issues, and in a fortuitous coincidence, I find myself in Cambridge late next week. Hoping we could have an informal chat if you're free -- perhaps Friday? Let me know if you have some time. Happy to swing by your office; I'll be mobile.

Cheers,

**R. David Edelman**

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

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**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 6:08 PM  
**To:** Edelman, R. David; Jon Orwant  
**Cc:** George Ivanov  
**Subject:** Google Cambridge visit

David - per our conversation, I wanted to connect you to Jon Orwant, a longtime Google engineering manager in Cambridge. I hope you two can find a convenient time late next week for you to swing by our Cambridge office and talk to Jon about some of the work his team does.

Have a great trip to beantown!

---

**From:** Edelman, R. David  
**Sent:** Friday, November 16, 2012 10:14 AM  
**To:** (b) (6)  
**Subject:** Re: Google Cambridge visit

Here -- in your lobby and badged.

---

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Have a great trip to beantown!

**From:** Edelman, R. David  
**Sent:** Tuesday, November 20, 2012 6:23 PM  
**To:** Johanna Shelton  
**Subject:** RE: Ross + Johanna + rD?

A strong point – I may be leaving myself on Friday afternoon. I'm supposed to be in a meeting that goes until 11:30, but I bet I can sneak out. 11 at Teasm would be good, since it's faster to get in/out of than my office.

-rD

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 5:26 PM  
**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

hey - Ross can do Fri mid-day but he can't do a full lunch (he leaves that night for Dubai) - does 11am work for you? or what would be best time mid-day?

On Tue, Nov 20, 2012 at 1:36 PM, Edelman, R. David (b) (6) wrote:

### Possibilities:

Tuesday, 9am; 1pm; 5pm

Friday, 9am; lunch.

-rD

R. David Edelman

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.



1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice

(b) (6)

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**From:** Edelman, R. David  
**Sent:** Tuesday, November 20, 2012 7:15 PM  
**To:** Johanna Shelton  
**Subject:** RE: Ross + Johanna + rD?

Much...if it works for you.

-rD

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 6:54 PM  
**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

is 11:30 better than 11?

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(b) (6)

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**From:** Edelman, R. David  
**Sent:** Tuesday, November 20, 2012 9:25 PM  
**To:** (b) (6)  
**Subject:** Re: Ross + Johanna + rD?

See you then!

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**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 07:23 PM  
**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

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(b) (6).



---

**From:** Edelman, R. David  
**Sent:** Tuesday, November 20, 2012 10:06 PM  
**To:** (b) (6)  
**Subject:** Re: Ross + Johanna + rD?

Perfect.

---

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 10:05 PM  
**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

great - it will be me and Ross

On Tue, Nov 20, 2012 at 9:24 PM, Edelman, R. David (b) (6) wrote:  
See you then!

---

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 07:23 PM

**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

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Senior Policy Counsel  
Google Inc.  
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Washington, DC 20005  
(b) (6) Google Voice  
(b) (6).

---

**From:** Mielke, Dawn M.  
**Sent:** Wednesday, November 21, 2012 10:06 AM  
**To:** 'Megan Stull'  
**Subject:** RE: Information re Attendees of 11-26-12 Meeting with Tom Power

Please save the form in excel format, I was not able to open it

**From:** Megan Stull [mailto:(b) (6)]  
**Sent:** Monday, November 19, 2012 5:19 PM  
**To:** Mielke, Dawn M.; Power, Tom  
**Cc:** Milo Medin; Johanna Shelton; Belvia Sharp  
**Subject:** Information re Attendees of 11-26-12 Meeting with Tom Power

Dear Dawn,

Here is the information that was requested of the attendees for Monday's meeting with Tom Power. Please let us know if you have questions (especially because the spreadsheet when I opened it earlier had mysteriously made me four years younger).

Thanks,  
Megan

--  
Megan Anne Stull  
Associate Corporate Counsel  
Google Inc.  
1101 New York Avenue N.W.  
Second Floor  
Washington, DC 20005  
Work: (b) (6)  
E-mail: (b) (6)

---

**From:** Edelman, R. David  
**Sent:** Wednesday, November 28, 2012 5:21 PM  
**To:** Johanna Shelton; George Ivanov  
**Subject:** RE: Ross + Johanna + rD?

Dear Johanna,

I'm terribly sorry to hear that. We'll miss you, but I'll be there on Friday. I return from Dubai on Wednesday of next week; I'd like to touch base then, if you're back, to compare notes on what we're hearing from our respective WCIT teams.

Regards,  
-David

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Wednesday, November 28, 2012 3:09 PM  
**To:** Edelman, R. David; George Ivanov  
**Subject:** Re: Ross + Johanna + rD?

David - i have a family emergency and will need to attend a funeral on Friday so i wanted to let you know that George Ivanov (copied) will accompany Ross and meet with you at 11:30 at Teaism on Friday.

good luck the next 2 weeks! don't sell out the Internet (literally)!

On Tue, Nov 20, 2012 at 10:06 PM, Edelman, R. David (b) (6) wrote:  
Perfect.

---

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 10:05 PM

**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

great - it will be me and Ross

On Tue, Nov 20, 2012 at 9:24 PM, Edelman, R. David (b) (6) wrote:  
See you then!

---

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 07:23 PM

**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

great - let's go with 11:30 at Teaism.

On Tue, Nov 20, 2012 at 7:15 PM, Edelman, R. David (b) (6) wrote:

Much...if it works for you.





ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6).

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6).

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(b) (6) Google Voice  
(b) (6).

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Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice

(b) (6)

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Johanna Shelton  
Senior Policy Counsel  
Google Inc.

1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice

(b) (6)

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**From:** Edelman, R. David  
**Sent:** Friday, November 30, 2012 11:33 AM  
**To:** (b) (6)  
**Subject:** On my way

There in 5



**From:** Edelman, R. David  
**Sent:** Tuesday, November 27, 2012 10:02 AM  
**To:** Johanna Shelton (b) (6)  
**Subject:** [WCIT] Forbes on ITU and Leaked ITU top staff document

Johanna,

Since Google is mentioned by name several times here, I thought you should see if you haven't already.

It may be worth examining the ITU documents in the original as well, if they're still up.

Best,  
-rD

<><><><><><><><><>

R. David Edelman

Senior Advisor for Internet Policy | The White House

ph: (202 (b) (6) | bb: (202 (b) (6) (b) (6)

<http://www.forbes.com/sites/larrydownes/2012/11/26/un-agencys-leaked-playbook-panic-chaos-over-internet-treaty/>  
by Larry Downes<<http://blogs.forbes.com/larrydownes/>>, Contributor

## UN Agency's Leaked Playbook: Panic, Chaos over Anti -Internet Treaty

The International Telecommunications Union, the UN agency at the center of a firestorm over new efforts to regulate the Internet, is preparing a social media campaign to target what it expects will be fierce opposition to a revised telephone treaty being decided next month at a secret conference in Dubai.

That's according to a key ITU internal planning document <http://files.wcitleaks.org/public/Retreat2012.pdf> that appeared Saturday on the website WCITLeaks <http://wcitleaks.org/>, which has been posting a steady stream of documents leading up to the conference. Even as ITU officials accelerate increasingly clumsy efforts to deflect the wrath of Internet users over next month's World Conference on International Telecommunications, more documents leaking out ahead of the meeting continue to expose the agency's misstatements.

The WCIT conference will consider revisions to a 1988 treaty<<http://www.forbes.com/sites/larrydownes/2012/08/09/why-the-un-is-trying-to-take-over-the-internet/>> known as the International Telecommunications Regulations. At the meeting, 193 member nations consider dozens of proposed amendments, including several that would bring the Internet under ITU jurisdiction and substantially change the architecture and governance of the Internet. Other proposals would, if adopted, give countries including Russia<<http://www.forbes.com/places/russia/>>, China<<http://www.forbes.com/places/china/>>, and Iran<<http://www.forbes.com/places/iran/>> UN sanctioned -authority to monitor and censor incoming and outgoing Internet traffic under the guise of improving “security.”

The newly-leaked document is the agenda for an “ITU Senior Management Retreat” held in Geneva in September. It includes a detailed report on resistance to WCIT and the agency’s plans to

counter criticism of its secretive processes. It also includes links and passwords for presentations given by outside public relations and advertising executives from leading global agencies. (The passwords were still active as of Nov. 24th.)

The document, marked “confidential,” suggests senior ITU officials have become both paranoid and panicked over growing outrage over both the form and substance of the upcoming negotiations. Material included with the agenda paints a pathetic picture of the 150 year-old UN agency struggling to defend itself from attacks by what the agency believes is a “well-financed and well-organized campaign originating in the USA” whose goal is to “discredit the ITU and WCIT.”

The two-day meeting also featured leading media consultants invited to help the agency formulate a strategy to avoid the kind of global outrage that mortally wounded <http://www.forbes.com/sites/erikkain/2012/01/23/if-you-thought-sopa-was-bad-just-wait-until-you-meet-acta/> a secret Anti-Counterfeiting Trade Agreement treaty earlier this year, and which did in copyright legislation <http://www.forbes.com/sites/larrydownes/2012/01/25/who-really-stopped-sopa-and-why/> known as SOPA and PIPA in the U.S. in January.

Both ACTA and the US copyright bills were widely expected to pass with little opposition until Internet users organized physical and virtual protests that caught lawmakers by surprise.

According to the internal ITU document, the agency had already launched what it calls a “counter-campaign”—a media blitz the agency plans to expand in light of what the ITU sees as the likely event of significant hostility to the revised treaty after the conference.

Following the WCIT meeting, the ITU says, the counter-campaign will focus on ways to “mitigate the risk” of an “intensive anti-ratification campaign in [the US and Western Europe], based on the so-called lack of openness of the WCIT process, resulting in a significant number of countries refusing to ratify the new ITRs.”

#### A Crisis of the ITU’s Own Making

The “so-called lack of openness” has little to do with growing outrage over WCIT. The real objections to the conference have more to do with substance than the secrecy of the negotiations. First and foremost, there is strong opposition within the US and EU delegations to expanding the UN’s jurisdiction over IP networks in any form. (The current ITRs do not extend to the Internet.)

Globally, concern is also growing over increasingly direct efforts by some national governments to hijack the conference into mandating changes to the engineering-driven, multi-stakeholder model of Internet governance that relies on non-governmental international organizations such as the Internet Society, ICANN, and the W3C. These changes are seen as preludes to future restrictions on content and users implemented through the reengineering of key resources.

In response to early proposals along these lines, Congress unanimously passed a joint resolution over the summer urging <http://www.forbes.com/sites/larrydownes/2012/10/01/u-n-agency-reassures-we-just-want-to-break-the-internet-not-take-it-over/> the US delegation, led by Ambassador Terry Kramer, to reject any extension of the ITU’s authority to Internet matters, or to allow ITU member states to use the conference to advance longstanding anti-Internet agendas. Last week, the EU debated a sternly worded proposal <http://www.europarl.europa.eu/sides/getDoc.do?type=MOTION&reference=B7-2012-0499&format=XML&language=EN> urging its members likewise to resist Internet-related proposals.

Also last week, Google launched its own campaign <https://www.google.com/intl/en/takeaction/>, urging users to take direct action against the WCIT. “Some governments want to use a closed-door meeting in December to increase censorship and regulate the Internet,” the company said. “Some proposals could permit governments to censor legitimate speech — or even allow them to cut off Internet access.”



The ITU has refused to take such criticism seriously, and continues instead to stonewall. In a Nov. 23 blog post, the agency attacked the Google campaign by name, insisting absurdly that the agency's secret proceedings are "completely transparent" <http://itu4u.wordpress.com/2012/11/23/the-google-campaign-an-itu-view/> because all 193 voting nations have access to the proceedings. (Non-voting private entities, which also have access to conference documents, can join the ITU at a cost that starts at around \$20,000 a year <http://www.itu.int/en/about/Pages/membership.aspx>.)

On Saturday, likewise, an ITU spokesperson once again rejected claims that any proposals <http://thehill.com/blogs/hillicon-valley/technology/269145-nations-prepare-to-update-international-treaty-affecting-the-internet> so far submitted for consideration could have any effect on censorship or reducing free speech in some member nations.

The spokesperson also flatly denied that any proposals do or could deal with regulation of the Internet or its underlying engineering. "There's nothing that's coming up in this conference that touches on Internet governance or proposes changing the current mandate of the organizations that run the Internet," the ITU spokesperson told The Hill.

ITU Secretary-General Hamadoun Touré, likewise, has said repeatedly that the WCIT has nothing to do with Internet governance, and that it specifically will not address multi-stakeholder management of protocols, domain names, addresses, or other engineering resources.

In a recent op-ed published by Wired <http://www.wired.com/opinion/2012/11/head-of-itu-un-should-internet-regulation-effort/>, for example, Touré wrote, "To be clear, the conference will not examine management of critical Internet resources such as domain names and IP addresses. These functions are already performed by ICANN and regional Internet registries." In a Nov. 15th blog post, the agency again assured critics <http://itu4u.wordpress.com/2012/11/15/wcit-12-clarification-needed-during-open-letter-season/> that "there have not been any proposals calling for a change from the bottom-up multi-stakeholder model of Internet governance to an ITU-controlled model." (emphasis original)

Yet as I reported last week [http://news.cnet.com/8301-13578\\_3-57551442-38/russia-demands-broad-un-role-in-net-governance-leak-reveals/](http://news.cnet.com/8301-13578_3-57551442-38/russia-demands-broad-un-role-in-net-governance-leak-reveals/), a leaked November 13th proposal from the Russian Federation to the ITU specifically adds a new section to the treaty dealing with Internet governance, and would if adopted transfer some if not all of ICANN's authority over domain names, Internet addresses and other key resources to national governments under the auspices of the ITU.

A direct contradiction of ITU assurances, the Russian proposal was only the most direct and aggressive of several leaked amendments from countries and non-voting private ITU members that would explicitly change the architecture and governance of the Internet.

(Many though by no means all of these have been posted to the WCITLeaks <http://wcitleaks.org> site, maintained by Jerry Brito and Eli Dourado, researchers at the Mercatus Center at George Mason University.)

## Preparing for the Worst—and Causing it at the Same Time

The ITU is well aware of these proposals, yet continues to deny their existence.

Now we know why. The agency's clumsy efforts at misdirection and outright misstatements follow precisely the media playbook discussed at the September senior management retreat.

At the meeting, the ITU considered responses to six possible outcomes for the upcoming WCIT conference, including "Consensus on a treaty that is substantively different from the existing ITRs, perhaps with reservations from some OECD

countries regarding specific articles.” (The OECD <<http://www.oecd.org/>> is an economic development organization that includes the US and much of Western Europe.)

But the agency’s senior management acknowledges in the document that a consensus scenario “seems unlikely given the positions taken by the USA.”

Those “positions,” according to the document, were expressed through a “well-financed and well-organized campaign” that was determined to “discredit the ITU and WCIT, so as to minimize the chances that new ITRs could affect the existing flow of funds for Internet traffic.”

The ITU is referring specifically to proposals I first reported on in May<[http://news.cnet.com/8301-1009\\_3-57449375-83/u.n-could-tax-u.s.-based-web-sites-leaked-docs-show/](http://news.cnet.com/8301-1009_3-57449375-83/u.n-could-tax-u.s.-based-web-sites-leaked-docs-show/)> from a trade group of European telephone companies known as ETNO. ETNO proposed radical changes to the ITRs that would mandate new Internet traffic transit arrangements in which content providers would pay tolls and taxes to local ISPs (many still run by national governments) to reach local users who requested their content.

The ETNO plan was widely seen as a desperation move by over-regulated European ISPs to subsidize their networks on the backs of high-volume content providers including YouTube, Netflix, and other video sites, most of which are headquartered outside the EU. But by requiring content providers to pay locally-set tolls to satisfy information requests by their own users, the plan would have signaled the end of Internet growth in much of the developing world<[http://news.cnet.com/8301-13578\\_3-57518427-38/eu-telcos-defend-un-internet-takeover-plans/](http://news.cnet.com/8301-13578_3-57518427-38/eu-telcos-defend-un-internet-takeover-plans/)>.

In Europe earlier this month, sources told me that the ETNO proposal had yet to find a sponsor among the European member nations. But versions of similar Internet tax plans have since appeared in amendments offered by some African and Arab countries. These governments hope content taxes can somehow replace lost revenue from declining international long distance traffic, where rates were set artificially high, leading to rampant corruption.

According to the leaked document, the ITU believes that the anti-ETNO campaign got out of hand, unintentionally leading public advocacy groups on the left and the right to begin “attacking the ITU and WCIT for being insufficiently open and transparent.”

Without identifying the U.S.-based “lobbying group” behind what it acknowledges to be growing negative media coverage, the agency goes on to say that “the sponsors” of the campaign “did not realize that the attacks directed against WCIT would turn into general attacks on the ITU as a whole.” The internal document says that “[t]he lobbying group that initiated the campaign has probably lost control of it and regrets the intensity of the attacks against the ITU.”

In response to the anti-WCIT “campaign,” according to the September retreat’s preparatory materials, the ITU reluctantly launched a “counter-campaign,” which the agency believes “has been fairly successful outside the US and somewhat successful even in the US,” where “some of the statements made to denigrate ITU and WCIT are so extreme that they were easy to challenge and rebut.”

Going forward, the ITU focused at its meeting on the possibility of an “intensive anti-ratification campaign in OECD countries, based on the so-called lack of openness of the WCIT process, resulting in a significant number of countries refusing to ratify the new ITRs.” The ITU calls this possibility “the so-called ACTA scenario,” referring to sometimes violent protests against the secret ACTA treaty<<http://www.bbc.co.uk/news/technology-16999497>> that took place this year.

To develop the next phase of its “counter-campaign,” the ITU hosted speakers from leading PR and advertising agencies to advise them on the use of social media. For example, Matthias Lufkens, Head of Digital Strategy for global public relations firm Burson-Marsteller, gave a presentation on how his agency helped the World Economic Forum leverage tools such as Facebook, Twitter, and Flickr to fend off “occupy”-style protests that occurred both physically in Davos and on the Internet.

"There is a risk that [the ACTA scenario] will happen, but our communication campaign can mitigate this," the internal document says.

### Fighting Fire with Tweets

But the ITU is deluding itself if its senior management actually believes the current "counter-campaign" has in any way been "successful." Opposition to WCIT has ramped up since the September retreat, and it is by no means limited to the US and other OECD countries.

Indeed, many countries in the developing world now recognize the ETNO proposal as one that would leave them cut off from most Internet traffic, and resent the ITU's implicit endorsement of the plan. (Even as late as September, the internal document characterized the sending party tax innocuously as "who pays how much to whom to move traffic" and sniffed that any objection to ETNO's proposals implied that "developing countries are unable to understand what is in their interests.")

The hostile response by Internet users to leaked anti-Internet proposals at WCIT is no mystery. Nor is it the result of a vast conspiracy against the ITU. The launch of Google's campaign, which comes nearly three months after the ITU retreat confidently predicted it had stemmed the tide of negative "press," is further evidence that the ITU and its media consultants have completely misread the response to WCIT from users not just in the U.S. but around the world<<http://www.thehindubusinessline.com/opinion/columns/vidya-ram/internet-freedom-at-stake/article4133529.ece>>.

Instead, as its media playbook advises, the ITU continues to repeat<<http://itu4u.wordpress.com/2012/11/23/the-google-campaign-an-itu-view/>> that only the agency's remarkable foresight in prior efforts at international telephone regulation "paved the way for today's information and communications technologies." The document encourages ITU spokespeople to deflect media questions from secrecy, taxes and censorship and say instead that "[t]he revised ITRs have the exciting potential to pave the way for a broadband revolution in the 21st century."

In a particularly ham-fisted example, the title of Dr. Touré's recent op-ed in Wired was changed a few days after it appeared from "UN Must Regulate the Internet" to "UN: We Seek to Bring Internet to All," presumably at the ITU's request. (Contrary to journalistic convention, Wired's editors made the change without noting or explaining it.)

Of course no one but the ITU believes such inanities. Indeed, the leaked agenda and supporting materials for its recent senior management retreat suggests even the agency's senior staff is having trouble keeping a straight face.

In fact, the ITU has been caught utterly flat-footed by the response to its Internet power grab. The agency is now straining to paint itself as an innocent victim of negative press intended for other targets.

But whether caused by its own greed or incompetence, the agency deserves the backlash that continues to grow against its efforts to expand its authority and reassert its relevance in the digital age—even if doing so comes at the cost of Internet freedom for some or all users.

Indeed, the leaked internal document makes crystal clear that the agency fundamentally misunderstands the resistance of Internet users to an enhanced UN role in Internet governance, and to proposals that would give repressive governments increased political cover to slow or silence the free flow of information under the guise of implementing a UN treaty.

It isn't the lack of transparency, in other words, that has outraged users. It's the terrible ideas the agency is at pains to keep secret within its sometimes-complicit national membership.

Here's the unvarnished truth, which no PR agency can help the agency talk, tweet, or prevaricate their way around: The commercial Internet emerged and matured entirely since the treaty was last reviewed. It developed in spite of the ITRs, not because of them.

There is a familiar pattern here of ambitious regulators who have no expertise and little experience with the Internet proclaiming themselves its benevolent dictators, only to find the peasants revolting before the coup has even started.

The ITU is no different than the sponsors of ACTA, SOPA, PIPA, and other attempts at regulating the Internet, its content, or its users by governments large and small. Like the media lobbyists who continue to see the successful fight to kill SOPA and PIPA as a proxy war waged solely by Google and other Internet companies, the ITU simply can't accept the reality that Internet users have become their own best advocates.

Without prodding, they readily work together to defend a common-sense faith in self-governance for engineering resources and an unshakable belief in a free marketplace of ideas, the cornerstones of the Internet's success.

The UN is just the latest would-be savior that believes itself the only solution to governance problems that are largely non-existent. And they are being aided and abetted in this delusion by national governments and others who are determined to turn off the free flow of information however they can, whether through legal or technological means, or both.

The only things broken on the Web have been broken by governments. As the ITU's continued fumbling makes ever clearer, the UN is ill-suited to play any role in the continued development of the digital economy. And the ITRs are no place to deal with real or imagined Internet issues. No one but the ITU's management and their client governments could ever think otherwise.

Fortunately for Internet users, setting up a Twitter feed and loading a Facebook page with lectures on the agency's patronizing sense of noblesse oblige isn't going to change that reality one bit.

Internet users already know that. The ITU and its media consultants will learn it soon enough.

That is, assuming its senior bureaucrats stop telling themselves consoling fairy tales at retreats in the Swiss countryside long enough for reality to set in.

With the WCIT meeting only a few weeks away, who knows what will leak out next? Follow me on Twitter @LarryDownes<<https://twitter.com/larrydownes>> to find out.

**From:** Edelman, R. David  
**Sent:** Friday, November 30, 2012 1:44 PM  
**To:** (b) (6)  
**Subject:** My contact details

Ross,

Great seeing you today. My contact details are below – I'll have the BB with me on the ground. Please don't hesitate to reach out, and see you in Dubai.

Cheers,  
-rD

<><><><><><><><>

R. David Edelman

Senior Advisor for Internet Policy | The White House

ph: (b) (6) | bb: (b) (6) (b) (6)

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**From:** Edelman, R. David  
**Sent:** Friday, November 30, 2012 3:06 PM  
**To:** Ross Lajeunesse  
**Subject:** Automatic reply: You're Invited: White House Holiday Tour

I will be on official travel through Wednesday. Please pardon any delay in reply.

Digitally yours,  
-Automated R. David Edelman



---

**From:** Edelman, R. David  
**Sent:** Saturday, December 01, 2012 7:57 AM  
**To:** (b) (6)  
**Subject:** In case you haven't yet seen

<http://www.whitehouse.gov/blog/2012/11/30/preserving-internet-freedom>

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**From:** Edelman, R. David  
**Sent:** Friday, November 30, 2012 3:34 PM  
**To:** (b) (6)  
**Subject:** Re: You're Invited: White House Holiday Tour

Absolutely!

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**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Friday, November 30, 2012 03:05 PM  
**To:** Edelman, R. David  
**Subject:** Re: You're Invited: White House Holiday Tour

hi david

thanks so much for this invitation! not to be a jerk about it, but any chance i could bring my 4 year old goddaughter along -- she is actually a huge fan of the president and his daughters (not sure how that happens with a 4 year old) and would love to visit their home

thanks  
ross

On Fri, Nov 30, 2012 at 2:24 PM, Edelman, R. David (b) (6) wrote:



## THE WHITE HOUSE

Washington

Dear Friends,

Every holiday season, the White House becomes a winter wonderland of holiday decorations, with over a dozen Christmas trees and all other manner of festive trimming. The East Wing, the White House's more formal section with such features as the Green, Red, Blue, East, and Diplomatic Reception Rooms, is a particular sight to behold.



--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations  
Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

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**From:** Holdren, John P.  
**Sent:** Wednesday, December 05, 2012 5:53 PM  
**To:** Vint Cerf  
**Subject:** RE: wednesday fiscal cliff call

Thanks, Vint. I think the call went well.

JOHN P. HOLDREN, PhD  
Assistant to the President for Science and Technology  
and Director, Office of Science and Technology Policy  
Executive Office of the President of the United States  
email (b) (6)  
direct phon (b) (6)  
assistant Karrie Pitze (b) (6) (b) (6)

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Tuesday, December 04, 2012 9:58 AM  
**To:** Holdren, John P.  
**Subject:** wednesday fiscal cliff call

John,

I can't make it (speaking engagement in LA area) but I am glad you are doing this.

vint

---

**From:** Edelman, R. David  
**Sent:** Tuesday, December 11, 2012 7:54 AM  
**To:** Johanna Shelton (b) (6) Ross Lajeunesse (b) (6)  
**Subject:** FW: [WH Blog] United Behind the Free Flow of Information

Johanna, Ross,

Thought you and the team may be interested in the below.

-rD

---

**From:** Edelman, R. David  
**Sent:** Tuesday, December 11, 2012 7:52 AM  
**Subject:** [WH Blog] United Behind the Free Flow of Information

<http://www.whitehouse.gov/blog/2012/12/11/united-behind-free-flow-information>

## United Behind the Free Flow of Information

By: Michael Daniel, R. David Edelman and Tom Power

December 11, 2012

12:00 AM EST

Across his Administration, President Obama has taken bold steps advancing a digital environment that rewards innovation and empowers individuals the world over. These ideas, and the policies that support them, are cornerstones of America's economy. But the benefits from this approach extend well beyond the United States; they are equally important to the social and economic wellbeing of Internet users across the globe. This is why the United States is strongly represented at the World Conference on International Telecommunications (WCIT) treaty conference in Dubai this month, where over 100 delegates from the public sector, private sector, and civil society are joining with our international partners to ensure the future of global, interoperable telecommunications networks.

Several White House officials were on hand for the Conference's opening days, where the hosts in the United Arab Emirates welcomed delegates and took some positive steps to address concerns the Conference be accessible to those outside its halls. As a crossroads in the interconnected global economy, Dubai is a natural venue to bring together the diversity of voices and views at the WCIT.

From the start, the U.S. position has been clear: the WCIT should be about updating a public telecommunications treaty to reflect today's market-based realities — not a new venue to create regulations on the Internet, private networks, or the data flowing across them.

Today, over 85 percent of the world has access to mobile phones because of modern, competitive marketplaces. And while much is left to be done connecting more to this digital future, the solution is not counterproductive regulation at the national or international level. By supporting principles that expand telecommunications infrastructure to underserved and developing populations, the WCIT can play a valuable role in ensuring technological innovation continues for the benefit of all.

But we should not confuse telecommunications infrastructure with the information that traverses it. The global consensus for a free and open Internet is overwhelming. Millions in the United States and around the world have already added their



voices to this conversation, and their position is clear: they do not want the WCIT to govern the Internet or legitimize more state control over online content. Our Administration could not agree more – and will not support a treaty that sets that kind of precedent.

That position unites our Administration, industry, civil society, both parties and houses of Congress, and stakeholders around the world. Communications technologies and the Internet are essential to economic growth and global prosperity. The world deserves a WCIT outcome that delivers more connectivity without undue regulations. The United States will remain a fierce advocate for those principles at the Conference, and beyond.

*Michael Daniel is Special Assistant to the President and Cybersecurity Coordinator; R. David Edelman is Senior Advisor for Internet Policy; and Tom Power is U.S. Deputy Chief Technology Officer for Telecommunications*

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**From:** Edelman, R. David  
**Sent:** Tuesday, December 11, 2012 4:54 PM  
**To:** Ross LaJeunesse  
**Subject:** RE: dubai update

Ross,

Thanks for the heads-up. I have, along with USG seniors, twice today. I've also reviewed the Chairman's "compromise" draft, and concur it's still full of unsavories and way over redlines.

I'd offer that Terry knows what he's doing to the extent that it's important he negotiate in good faith, and see if agreement is possible. However, he fully recognizes the Grand Canyon -like gulf between the two positions, and I have yet to see (at least in the last 8 hours) a deviation from his acceptance that we are not there and can't accept what's currently on the table. I hope that industry on the ground is reinforcing that view, as I'd assume they are.

If there are clear indications otherwise, let me know. But right now, I think we're all placing a cautious bit of faith in his understanding of the big picture. Keep me posted.

-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Tuesday, December 11, 2012 4:47 PM  
**To:** Edelman, R. David  
**Subject:** dubai update

hi david

have you spoken to terry recently? i think he's trying to do the right thing, but my read is that others at state dept are interested in reaching a deal - there are some problematic things being considered now, including a proposal that openly discusses the need to foster internet growth and the ITU's role in doing that. it starts on page 23 of THIS DOCUMENT. just to give you a sense of the crap that is flying at us. we actually had a discussion in the delegation about this, when i had expected the reaction to be "no way"...

i think kramer's worried that EU wants a deal and will split, and he's worried about optics of US being one of only a few to not sign.

please keep my fingerprints off this, but given our mutual interest in this working out well for the internet/innovation...

ross

--  
**Ross LaJeunesse**  
Global Head of Free Expression and International Relations  
Google Inc.

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**From:** Edelman, R. David  
**Sent:** Tuesday, December 11, 2012 5:14 PM  
**To:** Ross LaJeunesse  
**Subject:** RE: dubai update

Thanks. Not wasted time at all. It's appropriate that you continue to voice your views to the HoD as he enters this crucial time.

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Tuesday, December 11, 2012 4:59 PM  
**To:** Edelman, R. David  
**Subject:** Re: dubai update

sounds smart. i am working on the same assumptions that you are, but given tonight's del discussion on the internet proposal, i'd rather feel tomorrow that i had spoken up unnecessarily, than be in a position where i'm regretting having stayed silent

On Wed, Dec 12, 2012 at 1:54 AM, Edelman, R. David (b) (6) wrote:

Ross,

Thanks for the heads-up. I have, along with USG seniors, twice today. I've also reviewed the Chairman's "compromise" draft, and concur it's still full of unsavories and way over redlines.

I'd offer that Terry knows what he's doing to the extent that it's important he negotiate in good faith, and see if agreement is possible. However, he fully recognizes the Grand Canyon-like gulf between the two positions, and I have yet to see (at least in the last 8 hours) a deviation from his acceptance that we are not there and can't accept what's currently on the table. I hope that industry on the ground is reinforcing that view, as I'd assume they are.

If there are clear indications otherwise, let me know. But right now, I think we're all placing a cautious bit of faith in his understanding of the big picture. Keep me posted.

-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Tuesday, December 11, 2012 4:47 PM  
**To:** Edelman, R. David  
**Subject:** dubai update

hi david

have you spoken to terry recently? i think he's trying to do the right thing, but my read is that others at state dept are interested in reaching a deal - there are some problematic things being considered now, including a proposal that openly discusses the need to foster internet growth and the ITU's role in doing that. it starts on page 23 of [THIS DOCUMENT](#). just to give you a sense of the crap that is flying at us. we actually had a discussion in the delegation about this, when i had expected the reaction to be "no way"...

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---

**From:** Edelman, R. David  
**Sent:** Wednesday, December 12, 2012 1:48 PM  
**To:** Ross LaJeunesse (b) (6)  
**Subject:** Indications

I understand that Eric personally called Secretary Clinton's office, which was an impressive show of force. I'd be curious to know his reaction to the conversation.

More importantly though, I think we're all synched up, but can you let me know your quick gut: is there *anything* that's happened in the last eight hours that suggests we're getting closer, rather than farther to (a) agreement on a treaty with which the USDEL can live, and (b) a "consensus" to which the U.S. simply cannot, in your view, sign on? Finally, (c) what do you assess to be the community of states that would join us in admitting no consensus and wrapping this up?

Always good to hear other perspectives.

-rD

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**R. David Edelman**

Senior Advisor for Internet Policy

ph: (202) (b) (6) | bb: (202) (b) (6)

---

**From:** Edelman, R. David  
**Sent:** Wednesday, December 12, 2012 4:44 PM  
**To:** Ross LaJeunesse  
**Subject:** RE: ITU vote to include internet proposal in treaty

Just read.

The world lost. This treaty now has no legitimacy.

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Wednesday, December 12, 2012 4:43 PM  
**To:** Edelman, R. David  
**Subject:** ITU vote to include internet proposal in treaty

Just happened. ITU insists it wasn't a vote, but it was. We lost.



---

**From:** Edelman, R. David  
**Sent:** Wednesday, December 12, 2012 5:15 PM  
**To:** Ross LaJeunesse  
**Subject:** RE: ITU vote to include internet proposal in treaty

If it wasn't a vote, then it's not in there? I mean, I read the transcript. Sounds to me like it's in, thus sealing the fate. What's your take?

-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Wednesday, December 12, 2012 4:43 PM  
**To:** Edelman, R. David  
**Subject:** ITU vote to include internet proposal in treaty

Just happened. ITU insists it wasn't a vote, but it was. We lost.

---

**From:** Edelman, R. David  
**Sent:** Wednesday, December 12, 2012 5:18 PM  
**To:** Ross LaJeunesse  
**Subject:** RE: ITU vote to include internet proposal in treaty

Okay. Vote = vote. Legitimacy gone.

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Wednesday, December 12, 2012 5:17 PM  
**To:** Edelman, R. David  
**Subject:** Re: ITU vote to include internet proposal in treaty

it's in. it was a vote even if the ITU insists it wasn't. countries put up their voting signs and the chairman said the proposal was adopted as a result of the majority in the room agreeing with it.

On Thu, Dec 13, 2012 at 2:15 AM, Edelman, R. David (b) (6) wrote:

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-rD

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---

**From:** Kalil, Thomas A.  
**Sent:** Thursday, December 13, 2012 3:04 PM  
**To:** (b) (6)  
**Cc:** Will Patrick  
**Subject:** White House phone call on Industrial Internet

Dear Sebastian:

We are going to organize a phone call on the week of January 7<sup>th</sup> with a small group of companies in IT (e.g. IBM, Cisco, Google) and industrial (GE, Boeing, GM) to discuss what some have been calling the Industrial Internet. If there is interest in proceeding, we will organize a larger and more inclusive set of meetings to define the goals of a national effort.

The goal of the call is to explore whether there is interest in government -industry-university collaboration to ensure US leadership in this area and to address issues such as cybersecurity, standards, longer -term research, etc.

One of the hypotheses that is driving the interests of some companies in working together is that there may be an "Industrial Internet stack" that would address the needs of many sectors, and in that in the absence of a broader industry conversation, individual companies may reinvent the wheel and develop non -interoperable solutions.

Is this something that Google would be interested in participating in, and would you feel comfortable representing Google? The point person at GE is Bill Ruh.

See [http://www.ge.com/docs/chapters/Industrial\\_Internet.pdf](http://www.ge.com/docs/chapters/Industrial_Internet.pdf) for a paper they've written on the topic.

I realize this is not a new idea. Marc Weiser from Xerox PARC started talking about ubiquitous computing in 1988 – and people have also been discussing the Internet of things and Machine to Machine communication for a while. But I do think it would be worthwhile to explore whether government -industry-university collaboration would advance the ball.

All the best,

Tom

---

**From:** Edelman, R. David  
**Sent:** Thursday, December 13, 2012 10:35 AM  
**To:** Johanna Shelton  
**Subject:** RE: my direc (b) (6)

Am going into a mtg but will call in 20

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Thursday, December 13, 2012 10:31 AM  
**To:** Edelman, R. David  
**Subject:** my direc (b) (6)

thanks!

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6) (b) (6).

---

**From:** Edelman, R. David  
**Sent:** Thursday, December 13, 2012 1:51 PM  
**To:** Johanna Shelton  
**Subject:** RE: thanks

I'm glad. But we need to ensure the Euros are 100% locked down.

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Thursday, December 13, 2012 1:50 PM  
**To:** Edelman, R. David  
**Subject:** thanks

for the update this morning - very helpful on my end. we just saw the latest developments and people here are relieved (somewhat).

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Kalil, Thomas A.  
**Sent:** Friday, December 14, 2012 4:56 AM  
**To:** (b) (6)  
**Subject:** Re: White House phone call on Industrial Internet

Thanks - I followed up with Vint.

---

**From:** Sebastian Thrun [mailto:(b) (6)]  
**Sent:** Friday, December 14, 2012 02:41 AM  
**To:** Kalil, Thomas A.  
**Cc:** Will Patrick (b) (6); Astro Teller (b) (6); Vint Cerf (b) (6); Megan Smith (b) (6)  
**Subject:** Re: White House phone call on Industrial Internet

Tom

Vint Cerf would be the logical person to talk to. Cc'ing him,

Best  
Sebastian

On Thu, Dec 13, 2012 at 12:04 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Sebastian:

We are going to organize a phone call on the week of January 7<sup>th</sup> with a small group of companies in IT (e.g. IBM, Cisco, Google) and industrial (GE, Boeing, GM) to discuss what some have been calling the Industrial Internet. If there is interest in proceeding, we will organize a larger and more inclusive set of meetings to define the goals of a national effort.

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I realize this is not a new idea. Marc Weiser from Xerox PARC started talking about ubiquitous computing in 1988 – and people have also been discussing the Internet of things and Machine to Machine communication for a while. But I do think it would be worthwhile to explore whether government -industry-university collaboration would advance the ball.

All the best,

Tom



---

**From:** Kalil, Thomas A.  
**Sent:** Friday, December 14, 2012 7:56 AM  
**To:** (b) (6)  
**Subject:** Stats, not Calc

Dear Hal:

Tim O'Reilly told me about your conversation on this.

I'm in violent agreement with this.

The question is - who would need to do what to make progress on this?

For example, NSF has worked with the CS community to overhaul the AP curriculum. I've started a conversation with the College Board about a portfolio -based Engineering Design course.

Thanks!

Tom

---

**From:** Kalil, Thomas A.  
**Sent:** Friday, December 14, 2012 4:53 AM  
**To:** (b) (6) (b) (6) (b) (6)  
**Subject:** Re: industrial internet

Dear Vint:

That's great!

We don't have a date - but will be in touch when we do. We are shooting for the week of Jan 7th.

Looking forward to working together.

Best,

Tom

---

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Thursday, December 13, 2012 11:42 PM  
**To:** Kalil, Thomas A.; Carla LaFever <(b) (6)>  
**Subject:** industrial internet

Tom, I will try to get on the call - I have an all day board meeting that day, Jan 7; how long is the call and when does it start?

vint

---

**From:** Edelman, R. David  
**Sent:** Sunday, December 16, 2012 9:56 AM  
**To:** Ross LaJeunesse (b) (6)  
**Subject:** Confirmed - Mon (tomorrow!) @ 11am - WH East Wing Tour  
  
**Importance:** High

Dear Ross,

With apologies for the short notice, the Visitor's Office just informed me you've been confirmed for the East Wing Holiday Tour at **11am tomorrow, Monday, December 17<sup>th</sup>.**

The tour is self-guided, so you can set your own pace; typically, it takes between 30 and 45 minutes to complete. No further RSVP is required, so please simply arrive promptly at 11am with the guests you submitted to me, and IDs in hand.

Additional information from the Visitor's Office is below. Enjoy!

Please arrive on time to the Southeast Gate at Alexander Hamilton Place and East Executive Avenue, right off of 15th Street and E Street **with Photo ID.**

Small bags and cameras are permitted, but please do not bring any of the following:

- Food or beverages, tobacco products, personal grooming items (i.e. makeup, lotion, etc.)
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- Any pointed objects
- Aerosol containers
- Guns, ammunition, fireworks, electric stun guns, mace, martial arts weapons/devices, or knives of any size.

There is no place at the White House to check a large bag or a prohibited item. If it is raining, umbrellas are permitted.

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On behalf of President and Mrs. Obama, we hope you enjoy your visit to the White House.

<><><><><><><><>

**R. David Edelman**

Senior Advisor for Internet Policy

ph: (202) (b) (6) | bb: (202) (b) (6)

---

**From:** Edelman, R. David  
**Sent:** Monday, December 17, 2012 9:21 AM  
**To:** Ross LaJeunesse  
**Subject:** RE: Confirmed - Mon (tomorrow!) @ 11am - WH East Wing Tour

Ross,

So sorry to hear that. Let's get together this week and do a post -WCIT huddle. I'd like to hear your thoughts on what worked, what didn't, and where to go from here. And let me just say what's been said a thousand times: thank you for you and your team's tireless efforts – even amidst adversity within our own ranks – on behalf of the U.S. and the free Internet.

Cheers,  
-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Monday, December 17, 2012 9:17 AM  
**To:** Edelman, R. David  
**Subject:** Re: Confirmed - Mon (tomorrow!) @ 11am - WH East Wing Tour

hi david, thanks so much for arranging this for us, but unfortunately we won't be able to make it. i did the very unusual thing of not checking my email on sunday, a small attempt to heal post -WCIT trauma, so just getting this now.

hope you're doing well and hope our paths cross again soon

ross

On Sun, Dec 16, 2012 at 9:55 AM, Edelman, R. David (b) (6) wrote:

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Senior Advisor for Internet Policy

ph: (202) (b) (6) | bb: (202) (b) (6)

--

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Global Head of Free Expression and International Relations

Google Inc.

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**From:** Edelman, R. David  
**Sent:** Monday, December 17, 2012 11:32 AM  
**To:** Ross LaJeunesse  
**Subject:** RE: Confirmed - Mon (tomorrow!) @ 11am - WH East Wing Tour

Great. Will do.

What do you mean by engaging. You mean a larger hotwash of WCIT? Or engaging on a broader range of Internet and internet governance issues?

-rD

**From:** Ross LaJeunesse [mailto: (b) (6)]  
**Sent:** Monday, December 17, 2012 11:30 AM  
**To:** Edelman, R. David  
**Subject:** Re: Confirmed - Mon (tomorrow!) @ 11am - WH East Wing Tour

here you go -- if you do skip town, let me know as much in advance as possible, ok?

also, do you have thoughts now on the best way of google engaging? i've got an office full of revved-up folks in DC who are looking to engage. messages, etc. they'll have their own thoughts and we'll start figuring it out at a meeting tomorrow, but if you have thoughts now, shoot them over so i can include in the mtg tomorrow, thanks

On Mon, Dec 17, 2012 at 11:24 AM, Edelman, R. David (b) (6) wrote:

Ross,

Let's put Thursday afternoon (4pm) on the books, and provided I haven't skipped town to work remotely from SF, we'll do it.

If you can fill out the attached, I'll put you in the system, and we can meet in my office.

Cheers,

-rD

**From:** Ross LaJeunesse [mailto: (b) (6)]  
**Sent:** Monday, December 17, 2012 9:26 AM

**To:** Edelman, R. David

**Subject:** Re: Confirmed - Mon (tomorrow!) @ 11am - WH East Wing Tour

sure thing -- am sure your schedule is a dog, but could meet tomorrow after 4.00pm or t hursday after 3.30pm; friday is fairly free so could meet anytime after 10.00am -- let me know if any of those work

On Mon, Dec 17, 2012 at 9:20 AM, Edelman, R. David (b) (6) wrote:

Ross,

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Cheers,

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**From:** Ross LaJeunesse [mailto:(b) (6)]

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**To:** Edelman, R. David

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Senior Advisor for Internet Policy

—

Global Head of Free Expression and International Relations

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1992-1993

Global Head of Free Expression and International Relations

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**Ross LaJeunesse**

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Google Inc.

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**Attachments:** Blank WAVES form.xls

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- Valid Government issued United States' identification card
- Valid United States or other official government issued passports
- Valid United States State Department ID
- For foreign nationals, only VALID passports are accepted

No foreign-issued state IDs, foreign-issued driver's licenses, expired passports, or other forms of identification will be accepted.

United States Secret Service officers are posted in every room to provide historical information about the room and the White House. Please feel free to ask them questions.

White House tours are subject to last minute changes or cancellations. You will be notified by email if your tour is changed or cancelled. Your guests may call the White House Visitors Office 24 -hour information line at 202-456-7041 for the most current information about White House tours.

On behalf of President and Mrs. Obama, we hope you enjoy your visit to the White House.

R. David Edelman

Senior Advisor for Internet Policy

ph: (202) (b) (6) | bb: (202) (b) (6)

## Ross LaJeunesse

**Global Head of Free Expression and International Relations**

Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

--

**Ross LaJeunesse**

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---

**From:** Edelman, R. David  
**Sent:** Tuesday, December 18, 2012 3:01 PM  
**To:** Ross LaJeunesse  
**Subject:** RE: Invitation: WCIT Reception - Thursday

Can you do 3:30 – 4:15pm on Th?

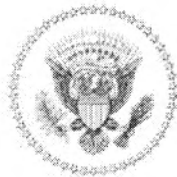
Also, I'm hoping that the del meeting will resolve questions about 'how to discuss' the issue – let me know if it doesn't and we need to pay more attention to it.

-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Tuesday, December 18, 2012 8:03 AM  
**To:** Edelman, R. David  
**Subject:** Re: Invitation: WCIT Reception - Thursday

still want to meet at 4pm before this?

On Mon, Dec 17, 2012 at 9:06 PM, Edelman, R. David (b) (6) wrote:



**THE WHITE HOUSE**

Washington

The Office of Science & Technology Policy, National Security Staff, and National Economic Council

*invite members of the*

**U.S. Delegation to the World Conference on International Telecommunications**

to an informal reception in their honor.

**Thursday, December 20<sup>th</sup>, 4:30 p.m. - 6:00p.m.**

## The Indian Treaty Room

Eisenhower Executive Office Building

*To RSVP, please complete the attached form in its entirety and in the formats designated, and send **no later than Tuesday, 5pm** to (b) (6).*

*Business attire. Invitation is non-transferrable. Admittance only with*

*RSVP.*

R. David Edelman

Senior Advisor for Internet Policy

—

## Ross LaJeunesse

Global Head of Free Expression and International Relations  
Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

---

**From:** Edelman, R. David  
**Sent:** Tuesday, December 18, 2012 6:15 PM  
**To:** Ross LaJeunesse  
**Subject:** RE: Invitation: WCIT Reception - Thursday  
**Attachments:** Blank WAVES form.xls

Please fill this out and send to Dawn, cc'd above. Will be in my office, EEOB596. Enter 17<sup>th</sup> and State Pl., aka NY Ave.

Thanks,  
-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Tuesday, December 18, 2012 4:06 PM  
**To:** Edelman, R. David  
**Subject:** Re: Invitation: WCIT Reception - Thursday

yes, see you at 3.30 -- where do i go for the mtg?

thanks

On Tue, Dec 18, 2012 at 3:00 PM, Edelman, R. David (b) (6) wrote:

Can you do 3:30 – 4:15pm on Th?

Also, I'm hoping that the del meeting will resolve questions about 'how to discuss' the issue – let me know if it doesn't and we need to pay more attention to it.

-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Tuesday, December 18, 2012 8:03 AM  
**To:** Edelman, R. David  
**Subject:** Re: Invitation: WCIT Reception - Thursday

still want to meet at 4pm before this?

On Mon, Dec 17, 2012 at 9:06 PM, Edelman, R. David (b) (6) wrote:



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*To RSVP, please complete the attached form in its entirety and in the formats designated,  
and send **no later than Tuesday, 5pm** to: [InternetPolicy@ostp.eop.gov](mailto:InternetPolicy@ostp.eop.gov)*

*Business attire. Invitation is non-transferrable. Admittance only with*

*RSVP.*



**R. David Edelman**

Senior Advisor for Internet Policy

--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations

Google Inc.

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--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations

Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**



---

**From:** Edelman, R. David  
**Sent:** Thursday, December 20, 2012 12:20 PM  
**To:** Johanna Shelton (b) (6)  
**Subject:** 5min on EO

Do you have 5min in the next 1.5hrs to talk EO? Are you the point on it, or if not, with whoever is?

Thanks!  
-rD

<><><><><><><><>

**R. David Edelman**

Senior Advisor for Internet Policy

ph: (202 (b) (6) | bb: (202 (b) (6)

---

**From:** Kalil, Thomas A.  
**Sent:** Saturday, December 22, 2012 1:43 PM  
**To:** (b) (6) Holdren, John P.  
**Subject:** Re: 30th Anniversary of the Operational Launch of the Internet

Dear Vint:

I suspect that the President's remarks will be of a more general nature - but let me see if there is any other way for us to recognize this important anniversary.

Best,

Tom

---

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Friday, December 21, 2012 12:01 PM  
**To:** Kalil, Thomas A.; Holdren, John P.  
**Subject:** 30th Anniversary of the Operational Launch of the Internet

John, Tom,

Jan 1, 2013 marks the 30th anniversary of the operational launch of the Internet. On that day, all the computers on the ARPANET converted to the TCP/IP protocols that lie at the heart of the Internet. The other two networks that formed the nascent Internet (a mobile packet radio network and a packet satellite network linking the US and Europe) had already been converted in 1982.

Do you suppose this milestone might be of interest to the President in his New Year's day remarks?

vint

---

**From:** Kalil, Thomas A.  
**Sent:** Monday, December 31, 2012 4:27 PM  
**To:** Astro Teller  
**Cc:** Mielke, Dawn M.  
**Subject:** RE: Registration for Solve for X

Dear Astro:

Happy New Year!

All my travel needs to be approved by our General Counsel. Is there someone Dawn can work with to get the relevant info?

Thanks!

Tom

**From:** Astro Teller [mailto:(b) (6)]  
**Sent:** Thursday, December 20, 2012 1:21 PM  
**To:** Kalil, Thomas A.  
**Subject:** Registration for Solve for X

Hey Tom,

Can you take a moment and register ([register here](#))?

Thanks!

- Astro

---

**From:** Edelman, R. David  
**Sent:** Thursday, January 03, 2013 1:04 PM  
**To:** Johanna Shelton (b) (6)  
**Subject:** Release

Johanna,

I hear big news coming out momentarily. Do you have the release and any accompanying materials from Google's side? Obviously, lots of interest here at the WH.

Thanks,  
-David

<><><><><><><><>

**R. David Edelman**

Senior Advisor for Internet Policy

ph: (202) (b) (6) | bb: (202) (b) (6)

---

**From:** Edelman, R. David  
**Sent:** Thursday, January 03, 2013 1:25 PM  
**To:** Johanna Shelton  
**Subject:** RE: FTC action

I'm watching the webcast now. Thanks for the links!

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Thursday, January 03, 2013 1:25 PM  
**To:** Edelman, R. David  
**Subject:** FTC action

Please let me know if you have any questions -

Our blog post:  
<http://googleblog.blogspot.com/2013/01/the-federal-trade-commission-closes-its.html>

Our commitment letter:  
[http://static.googleusercontent.com/external\\_content/untrusted\\_dlcp/www.google.com/en/us/pdf/google\\_ftc\\_dec2012.pdf](http://static.googleusercontent.com/external_content/untrusted_dlcp/www.google.com/en/us/pdf/google_ftc_dec2012.pdf)

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Thursday, January 03, 2013 1:50 PM  
**To:** Johanna Shelton  
**Subject:** RE: FTC action

Thanks; seems pretty straightforward for now. Appreciate the source materials.

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Thursday, January 03, 2013 1:33 PM  
**To:** Edelman, R. David  
**Subject:** Re: FTC action

let me know if you have any questions

On Thu, Jan 3, 2013 at 1:25 PM, Edelman, R. David (b) (6) wrote:

I'm watching the webcast now. Thanks for the links!

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Thursday, January 03, 2013 1:25 PM  
**To:** Edelman, R. David  
**Subject:** FTC action

Please let me know if you have any questions -

Our blog post:

<http://googleblog.blogspot.com/2013/01/the-federal-trade-commission-closes-its.html>

Our commitment letter:

[http://static.googleusercontent.com/external\\_content/untrusted\\_dlcp/www.google.com/en/us/pdf/google\\_ftc\\_dec2012.pdf](http://static.googleusercontent.com/external_content/untrusted_dlcp/www.google.com/en/us/pdf/google_ftc_dec2012.pdf)

--  
Johanna Shelton

Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6).

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6).

---

**From:** Kalil, Thomas A.  
**Sent:** Monday, January 14, 2013 11:51 AM  
**To:** Astro Teller (b) (6)  
**Cc:** (b) (6)  
**Subject:** RE: Google Solve for X

Dear Astro:

The President has scheduled his SOTU for the week after Solve for X, which unfortunately means I will be chained to my desk.

If you would be open to this, I could see if Cristin Dorgelo, who is OSTP's Assistant Director for Grand Challenges, would be able to participate.

Sorry about this – and thanks so much for the invitation.

All the best,

Tom

---

**From:** Erin Hughes [mailto:(b) (6)]  
**Sent:** Monday, January 14, 2013 10:19 AM  
**To:** Kalil, Thomas A.  
**Subject:** Google Solve for X

Hello,

I am contacting you from Google Solve for X in regards to your accommodations and travel in February. You stated on your registration form that you have restrictions; I would like to clarify with you what specifically your restrictions are for. Will you need to stay at a different hotel than the group is staying at? We can provide another hotel if needed. The registration form also indicated you will be arranging your own travel. Can you send me your flight itinerary for February's meeting in San Martin when available? We would like to document arrival and departure times for check in and out at the hotel. Finally, I would like to confirm with you that you are all set with ground transportation to and from the airport.

Thank you for your time. Let me know if you have any questions.

Arrival Day: Wednesday, February 6, 2013

Departure Day: Friday, February 8, 2013

Hotel: CordeValle Resort  
One CordeValle Club Drive  
San Martin, CA 95046

Thank you,

**ERIN HUGHES** | MEETING COORDINATOR  
O: (b) (6) | F: (b) (6)





---

**From:** Dorgelo, Cristin  
**Sent:** Monday, January 14, 2013 9:33 PM  
**To:** (b) (6)  
**Subject:** Solve for X

Hi Kathy:

Tom Kalil (White House OSTP's Deputy Director for Policy), who was confirmed to attend Solve for X, will unfortunately be unable to attend the event and has asked that I attend in his stead.

If it is okay that I fill in for him, what do I need to know about attendance/registration?

Many thanks,  
Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

<http://www.whitehouse.gov/ostp/blog>

Twitter: @WhiteHouseOSTP

---

**From:** Dorgelo, Cristin  
**Sent:** Tuesday, January 15, 2013 12:32 PM  
**To:** Kathy Cooper  
**Subject:** RE: Solve for X

Thanks Kathy, will do. Is there anything I should know about travel arrangements logistics?

Appreciate your help,  
Cristin

**From:** Kathy Cooper [mailto:(b) (6)]  
**Sent:** Tuesday, January 15, 2013 12:27 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Hi Cristin,

Thanks for reaching out - we would love to have you at Solve for X!

Please [register here](#) at your earliest convenience. I've also given you access to our 2013 Solve for X event website, so you should be able to find it [here](#). Please let me know if that isn't working for some reason, and I will investigate.

I look forward to meeting you soon!  
Kathy

On Mon, Jan 14, 2013 at 6:33 PM, Dorgelo, Cristin (b) (6) wrote:

Hi Kathy:

Tom Kalil (White House OSTP's Deputy Director for Policy), who was confirmed to attend Solve for X, will unfortunately be unable to attend the event and has asked that I attend in his stead.

If it is okay that I fill in for him, what do I need to know about attendance/registration?

Many thanks,

Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

<http://www.whitehouse.gov/ostp/blog>

Twitter: @WhiteHouseOSTP

---

**From:** Dorgelo, Cristin  
**Sent:** Thursday, January 17, 2013 7:20 PM  
**To:** Kathy Cooper  
**Subject:** RE: Solve for X

Hi Kathy:

I don't seem to be able to get into event website (I'm getting an "access forbidden" message when I go to this link: <http://2013.solveforx.com/#home>).

Thanks for your help!

Cristin

**From:** Kathy Cooper [mailto:(b) (6)]  
**Sent:** Tuesday, January 15, 2013 12:27 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Hi Cristin,

Thanks for reaching out - we would love to have you at Solve for X!

Please [register here](#) at your earliest convenience. I've also given you access to our 2013 Solve for X event website, so you should be able to find it [here](#). Please let me know if that isn't working for some reason, and I will investigate.

I look forward to meeting you soon!  
Kathy

On Mon, Jan 14, 2013 at 6:33 PM, Dorgelo, Cristin (b) (6) wrote:

Hi Kathy:

Tom Kalil (White House OSTP's Deputy Director for Policy), who was confirmed to attend Solve for X, will unfortunately be unable to attend the event and has asked that I attend in his stead.

If it is okay that I fill in for him, what do I need to know about attendance/registration?

Many thanks,

Cristin

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Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

<http://www.whitehouse.gov/ostp/blog>

Twitter: @WhiteHouseOSTP

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**From:** Dorgelo, Cristin  
**Sent:** Thursday, January 17, 2013 7:28 PM  
**To:** Kathy Cooper  
**Subject:** RE: Solve for X

Sure do (b) (6).

Thanks,  
Cristin

**From:** Kathy Cooper [mailto:(b) (6)]  
**Sent:** Thursday, January 17, 2013 7:26 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Hi Cristin,

Do you happen to have a Google account? If so, please let me know what it is - we've been seeing some site access error with non-Google accounts.

If you do not have an account, please let me know and I'll figure out another way for you to access the site.

Thank you!  
Kathy

On Thu, Jan 17, 2013 at 4:19 PM, Dorgelo, Cristin (b) (6) wrote:

Hi Kathy:

I don't seem to be able to get into event website (I'm getting an "access forbidden" message when I go to this link: <http://2013.solveforx.com/#home>).

Thanks for your help!

Cristin

**From:** Kathy Cooper [mailto:(b) (6)]  
**Sent:** Tuesday, January 15, 2013 12:27 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Hi Cristin,

Thanks for reaching out - we would love to have you at Solve for X!

Please [register here](#) at your earliest convenience. I've also given you access to our 2013 Solve for X event website, so you should be able to find it [here](#). Please let me know if that isn't working for some reason, and I will investigate.

I look forward to meeting you soon!  
Kathy

On Mon, Jan 14, 2013 at 6:33 PM, Dorgelo, Cristin (b) (6) wrote:

Hi Kathy:

Tom Kalil (White House OSTP's Deputy Director for Policy), who was confirmed to attend Solve for X, will unfortunately be unable to attend the event and has asked that I attend in his stead.

If it is okay that I fill in for him, what do I need to know about attendance/registration?

Many thanks,

Cristin



Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

<http://www.whitehouse.gov/ostp/blog>

Twitter: @WhiteHouseOSTP

---

**From:** Dorgelo, Cristin  
**Sent:** Thursday, January 17, 2013 7:37 PM  
**To:** Kathy Cooper  
**Subject:** RE: Solve for X

Thanks for your help Kathy! I've got access. (And *no* worries re: me on the site.)

**From:** Kathy Cooper [mailto:(b) (6)]  
**Sent:** Thursday, January 17, 2013 7:30 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Great! Thanks for the quick reply. You should now have access with that address.

I also wanted to note: you'll be added to the website today or tomorrow at the latest. You're not quite there yet because we haven't updated it since we received your registration, but you'll be added!

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, November 02, 2012 5:47 PM  
**To:** Edelman, R. David  
**Subject:** RE: Rosetta Stone Agrees to Drop Google Trademark Suit

Sure - I will check schedules

On Nov 2, 2012 5:35 PM, "Edelman, R. David" (b) (6) wrote:

Thanks, Johanna. Good to know, and appreciate the heads -up.

Also, major developments (as you obviously saw) last Friday on DNT. Could we have a follow-up conversation late next week? Do you and the MV team have any time on Wednesday or Thursday?

Cheers,

-David

<><><><><><><><><>

R. David Edelman

Senior Advisor for Internet Policy

National Economic Council | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Wednesday, October 31, 2012 1:34 PM  
**To:** Edelman, R. David  
**Subject:** Rosetta Stone Agrees to Drop Google Trademark Suit

David -

I wanted to make you aware of this development. Please let me know if you have any questions.

- Johanna

Businessweek story [here](#)

Bloomberg News

## Rosetta Stone Agrees to Drop Google Trademark Suit

By Don Jeffrey on October 31, 2012

Rosetta Stone Inc. (RST), a maker of language-learning software, agreed to drop a lawsuit it brought against Google Inc. (GOOG) for selling its trademarks to other companies for search-engine advertising.

The companies agreed that all claims in the infringement case will be dismissed, according to a filing today in federal court in Alexandria, Virginia. No terms were given with the stipulation of voluntary dismissal. Rosetta Stone had claimed the keywords were being sold to competitors and counterfeiters.

U.S. District Judge Gerald Bruce Lee ruled in 2010 that the sale of Rosetta's trademarked phrases as keywords wouldn't confuse consumers. The U.S. Court of Appeals for the Fourth Circuit in April overturned part of that ruling and sent the case back to the lower court.

"Google and Rosetta Stone have agreed to dismiss the three-year-old trademark infringement lawsuit between them and to meaningfully collaborate to combat online ads for counterfeit goods and prevent the misuse and abuse of trademarks on the Internet," the companies said in a joint e-mailed statement.

Google, which runs the world's largest search engine, sells advertisers the rights to use certain words or phrases as keywords for paid ads on its site. The so-called sponsored links direct users to the advertisers' websites.

### Keyword Bids

Advertisers bid what they'll pay Google for each click on an ad triggered by the keyword. The highest bid and other factors determine whether the keywords can be used. Mountain View, California-based Google derives most of its revenue from ad sales.

Rosetta, based in Arlington, Virginia, had said in its appellate brief that it was "entitled to its day in court before a properly instructed jury."

Google said in its brief that "each time Rosetta Stone informed Google that a particular advertiser was selling counterfeit Rosetta Stone products, Google promptly took action including removing the advertisement."

Google rose \$3.24 to \$678.39 at 1:04 p.m. New York time in Nasdaq Stock Market trading (GOOG). Rosetta Stone declined (RST) 3 cents to \$11.42 on the New York Stock Exchange.

The case is Rosetta Stone v. Google, 09-00736, U.S. District Court, Eastern District of Virginia (Alexandria). The appeal is Rosetta Stone v. Google, 10-2007, U.S. Court of Appeals for the Fourth Circuit (Richmond, Virginia).

To contact the reporter on this story: Don Jeffrey in New York at [djeffrey1@bloomberg.net](mailto:djeffrey1@bloomberg.net)

To contact the editor responsible for this story: Michael Hytha [mhytha@bloomberg.net](mailto:mhytha@bloomberg.net)

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Ginny Hunt (b) (6)  
**Sent:** Monday, November 05, 2012 3:48 PM  
**To:** Phillips, Macon  
**Cc:** Forde, Brian; Elmer, Stacy; Edelman, R. David (b) (6)  
(b) (6) (b) (6) (b) (6)  
(b) (6) (b) (6) Park, Todd; bellis  
**Subject:** Re: Looking for POC for GooglePeopleFinder and other apps/systems for response to Sandy

+ Brad Ellis, Crisis Product Manager who should be able to help

best  
Ginny

On Mon, Nov 5, 2012 at 3:40 PM, Phillips, Macon (b) (6) wrote:  
Looping Ginny who may know folks.

---

**From:** <Forde>, Brian Forde (b) (6)  
**Date:** Monday, November 5, 2012 10:34 AM  
**To:** "Elmer, Stacy" (b) (6) EOP (b) (6) "Edelman, R. David"  
(b) (6) "Sivak, Bryan (HHS/IOS)" (b) (6)  
(b) (6) (b) (6) (b) (6)  
(b) (6)  
**Cc:** (b) (6) (b) (6) (b) (6) (b) (6)  
(b) (6) (b) (6) Todd Park (b) (6)  
**Subject:** Re: Looking for POC for GooglePeopleFinder and other apps/systems for response to Sandy

Kathryn - Would you be able to make the intro to the people finder group at google? Thanks!

---

**From:** Elmer, Stacy  
**Sent:** Monday, November 05, 2012 10:22 AM  
**To:** Forde, Brian; Phillips, Macon; Edelman, R. David; 'Sivak, Bryan (HHS/IOS)' <(b) (6)>  
(b) (6) (b) (6) Sanborn, Frank (OS/ASPR) (b) (6)  
**Cc:** (b) (6) (b) (6) 'Lurie, Nicole (HHS/ASPR/IO)' <(b) (6)>  
**Subject:** Looking for POC for GooglePeopleFinder and other apps/systems for response to Sandy

Greetings,

There is a small group working together with New York City to try to develop a comprehensive database of patients who have been moved from long term care facilities, hospitals, and those who were receiving at home care who may have evacuated to shelters and/or hospitals. We have a handle on the Red Cross, and city, state, and Federal assets that are engaged in this effort, but need to make contact with private sector partners who are doing the same. Google's People Finder comes to mind – two questions:

1. Do you have a point of contact at Google that you can provide to Dave Whitlinger in the State of New York to connect him to Google People Finder?

2. Are there other private sector entities that you know of that have systems/apps/programs for tracking people who are displaced from the storm? If so can you list them here and if you have it, an associated point of contact?

Thanks much,  
Stacy

Stacy Elmer

Director for Incident Management

National Security Staff

The White House

Offic (b) (6)

Blackberr (b) (6)

---

**From:** Kalil, Thomas A.  
**Sent:** Saturday, January 19, 2013 8:42 PM  
**To:** Hal Varian  
**Subject:** RE: undergrad statistics resource for non-majors

Dear Hal:

Feb 12<sup>th</sup> is SOTU, so we are usually busy then.

Coffee on Feb 13<sup>th</sup>?

Best,

Tom

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Saturday, January 19, 2013 8:38 PM  
**To:** Kalil, Thomas A.  
**Subject:** undergrad statistics resource for non-majors

<http://www.dartmouth.edu/~chance/index.html>

Hey, Tom, what are your plans. I'm going to be at Google DC, Feb 12-13. Want to come to a group dinner there on Feb 12?



---

**From:** Kalil, Thomas A.  
**Sent:** Sunday, January 20, 2013 9:48 AM  
**To:** Hal Varian  
**Subject:** RE: undergrad statistics resource for non-majors

Great. How about 8 am at Caribou Coffee – 17<sup>th</sup> and Penn. My cell phone is (b) (6)

Two economic ideas I am having trouble reconciling that maybe you can straighten out for me.

- The Robert Gordon view – IT revolution not that big a deal relative to the previous industrial revolutions (we'd all trade our iPad for indoor plumbing) maybe increases in GDP/capita from 1750 – 2000 were a one time event
- Race Against the Machine – advances in machine learning, IT, robotics etc. are such a big deal that share of GDP going to labor could decline significantly

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Sunday, January 20, 2013 1:39 AM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non-majors

Sure, that will work.

On Sat, Jan 19, 2013 at 5:42 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Hal:

Feb 12<sup>th</sup> is SOTU, so we are usually busy then.

Coffee on Feb 13<sup>th</sup>?

Best,

Tom

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Saturday, January 19, 2013 8:38 PM

**To:** Kalil, Thomas A.

**Subject:** undergrad statistics resource for non-majors

<http://www.dartmouth.edu/~chance/index.html>

Hey, Tom, what are your plans. I'm going to be at Google DC, Feb 12 -13. Want to come to a group dinner there on Feb 12?

---

**From:** Kalil, Thomas A.  
**Sent:** Monday, January 21, 2013 2:50 PM  
**To:** Hal Varian  
**Subject:** RE: undergrad statistics resource for non-majors

How about 10 am on the 13<sup>th</sup> – is that slightly more civilized?

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Sunday, January 20, 2013 1:39 AM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non-majors

Sure, that will work.

On Sat, Jan 19, 2013 at 5:42 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Hal:

Feb 12<sup>th</sup> is SOTU, so we are usually busy then.

Coffee on Feb 13<sup>th</sup>?

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Tom

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**To:** Kalil, Thomas A.  
**Subject:** undergrad statistics resource for non-majors

<http://www.dartmouth.edu/~chance/index.html>

Hey, Tom, what are your plans. I'm going to be at Google DC, Feb 12 -13. Want to come to a group dinner there on Feb 12?

---

**From:** Brad Ellis (b) (6)  
**Sent:** Monday, November 05, 2012 4:13 PM  
**To:** Ginny Hunt  
**Cc:** Phillips, Macon; Forde, Brian; Elmer, Stacy; Edelman, R. David (b) (6)  
(b) (6) (b) (6) (b) (6)  
(b) (6) (b) (6) Park, Todd  
**Subject:** Re: Looking for POC for GooglePeopleFinder and other apps/systems for response to Sandy

Hi -

We don't have an active instance of Google Person Finder for Sandy. For this event Red Cross Safe and Well is probably the best option - glad that you are already in touch with them.

Brad

On Tue, Nov 6, 2012 at 5:48 AM, Ginny Hunt (b) (6) wrote:  
+ Brad Ellis, Crisis Product Manager who should be able to help

best  
Ginny

On Mon, Nov 5, 2012 at 3:40 PM, Phillips, Macon (b) (5) wrote:  
Looping Ginny who may know folks.

---

**From:** <Forde>, Brian Forde (b) (6)  
**Date:** Monday, November 5, 2012 10:34 AM  
**To:** "Elmer, Stacy" (b) (6) EOP (b) (6) "Edelman, R. David"  
(b) (6) "Sivak, Bryan (HHS/IOS)" (b) (6)  
(b) (6) (b) (6) (b) (6)  
(b) (6)  
**Cc:** (b) (6) (b) (6) (b) (6) (b) (6)  
(b) (6) (b) (6) Todd Park (b) (6)  
**Subject:** Re: Looking for POC for GooglePeopleFinder and other apps/systems for response to Sandy

Kathryn - Would you be able to make the intro to the people finder group at google? Thanks!

---

**From:** Elmer, Stacy  
**Sent:** Monday, November 05, 2012 10:22 AM  
**To:** Forde, Brian; Phillips, Macon; Edelman, R. David; 'Sivak, Bryan (HHS/IOS)' <(b) (6)>  
(b) (6) (b) (6) Sanborn, Frank (OS/ASPR) (b) (6)  
**Cc:** (b) (6) (b) (6) 'Lurie, Nicole (HHS/ASPR/IO)' <(b) (6)>  
**Subject:** Looking for POC for GooglePeopleFinder and other apps/systems for response to Sandy

Greetings,

There is a small group working together with New York City to try to develop a comprehensive database of patients who have been moved from long term care facilities, hospitals, and those who were receiving at home care who may have evacuated to shelters and/or hospitals. We have a handle on the Red Cross, and city, state, and Federal assets that are engaged in this effort, but need to make contact with private sector partners who are doing the same. Google's People Finder comes to mind – two questions:

1. Do you have a point of contact at Google that you can provide to Dave Whitlinger in the State of New York to connect him to Google People Finder?
2. Are there other private sector entities that you know of that have systems/apps/programs for tracking people who are displaced from the storm? If so can you list them here and if you have it, an associated point of contact?

Thanks much,  
Stacy

Stacy Elmer

Director for Incident Management

National Security Staff

The White House

Offic (b) (6)

Blackberr (b) (6)

---

**From:** Kalil, Thomas A.  
**Sent:** Monday, January 21, 2013 5:21 PM  
**To:** Hal Varian  
**Subject:** RE: undergrad statistics resource for non-majors

Sounds good. See you at Caribou – 17<sup>th</sup> and Penn. Near Farragut West – 17<sup>th</sup> Street exit.

My cell i (b) (6)

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Monday, January 21, 2013 5:18 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non -majors

7 AM body time? I should be able to communicate after a few cups of coffee.  
What metro stop?

On Mon, Jan 21, 2013 at 11:49 AM, Kalil, Thomas A. (b) (6) wrote:

How about 10 am on the 13<sup>th</sup> – is that slightly more civilized?

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Sunday, January 20, 2013 1:39 AM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non -majors

Sure, that will work.

On Sat, Jan 19, 2013 at 5:42 PM, Kalil, Thomas A. (b) (6) wrote:

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Coffee on Feb 13<sup>th</sup>?

Best,

Tom

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Saturday, January 19, 2013 8:38 PM  
**To:** Kalil, Thomas A.  
**Subject:** undergrad statistics resource for non-majors

<http://www.dartmouth.edu/~chance/index.html>

Hey, Tom, what are your plans. I'm going to be at Google DC, Feb 12-13. Want to come to a group dinner there on Feb 12?



---

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, November 09, 2012 12:41 PM  
**To:** Edelman, R. David  
**Subject:** Fwd: Online Video Discussion with SVP of YouTube

see below - want to chat quickly today. let me know when you are available to talk this afternoon. thanks!

----- Forwarded message -----

**From:** George Ivanov (b) (6)  
**Date:** Fri, Nov 9, 2012 at 12:35 PM  
**Subject:** Online Video Discussion with SVP of YouTube  
**To:** (b) (6)  
**Cc:** "Graubard, Vivian" (b) (6) Johanna Shelton (b) (6) Abbi Tatton (b) (6)

Hi Todd,

I hope you are doing well. We were wondering if you and your colleagues might have some time next Tuesday (11/13) to meet with Salar Kamangar, Google's Senior Vice President of YouTube to discuss the rapid growth of the YouTube video platform globally and the developer/content tools that it currently provides to individuals, organizations, and businesses.

Sincerely,  
George

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005  
(b) (6) (b) (6)

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Tuesday, January 22, 2013 10:23 AM  
**To:** Johanna Shelton  
**Subject:** RE: Google Inauguration Brunch

Johanna,

Apologies; was out of town at a speaking engagement much of the weekend, despite my earlier intentions to make it back. Sorry I wasn't able to be there!

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Friday, January 18, 2013 5:35 PM  
**To:** Edelman, R. David  
**Subject:** Fwd: Google Inauguration Brunch

hey there - we don't have many rsvp's from OSTP or NEC - let me know if you or anyone else wants to come. heard you had a nice talk with Justin.

(this is a PDF version of invite since our other one may not be making it through filters etc)

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Kalil, Thomas A.  
**Sent:** Tuesday, January 22, 2013 9:08 AM  
**To:** Vint Cerf; Holdren, John P.  
**Cc:** Evans, Bess  
**Subject:** RE: Possible video or written communication from the President?

Dear Vint:

We can try! Is there someone that Bess can work with on the details?

Best,

Tom

**From:** Vint Cerf [mailto: (b) (6)]  
**Sent:** Monday, January 21, 2013 11:29 PM  
**To:** Kalil, Thomas A.; Holdren, John P.  
**Subject:** Possible video or written communication from the President?

John, Tom,

I have become involved as a major sponsor of a two day workshop on innovation and jobs. The principle point is to explore how best to harness innovation to create new businesses and the jobs that go with them. It's a small, invitation-only affair, March 18-19 at SRI International (Curt Carlson is also a steering committee member).

Knowing that innovation is an important theme for the President, I wonder whether it is possible to have a brief letter of encouragement for this group to pursue this work or, even better, a brief video, from the President? I know this is an over-the-top request so I won't be disappointed if it isn't possible.

thanks - hope to cross paths with you when I return from India at end of January. I hope that processing of my appointment to the NSB will happen before the next meeting Feb 20th.

best wishes for the New Year!

vint

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, November 09, 2012 2:40 PM  
**To:** Edelman, R. David  
**Subject:** Re: Online Video Discussion with SVP of YouTube

here's my understanding of the lineup:

2pm Tues 11/13 - patent conversation with you, Quentin, me, Google counsel Matthew Bye (i will send bio in another email)

3pm Tues 11/13 - YouTube CEO discussion with Salar Kamangar (other Googlers will include me, George Ivanov, Abbi Tatton)

Bio for Salar:

Salar Kamangar  
SVP of YouTube and Video  
Google Inc.

Salar Kamangar is in charge of running day-to-day operations at YouTube.

Previously, he was Vice President of Product Management for Google's advertising and monetization products, including the AdWords program, which he defined with a small engineering team. Today, AdWords is the foundation for Google's syndication on partner sites and serves as the engine that drives Google's revenue. Prior to that, Salar created the company's first business plan and was responsible for its legal and finance functions.

Kamangar, born in Tehran-Iran in 1977, earned his Bachelor's degree in Biological Sciences with honors from Stanford University.

On Fri, Nov 9, 2012 at 12:40 PM, Johanna Shelton (b) (6) wrote:  
see below - want to chat quickly today. let me know when you are available to talk this afternoon. thanks!

----- Forwarded message -----

**From:** George Ivanov (b) (6)  
**Date:** Fri, Nov 9, 2012 at 12:35 PM  
**Subject:** Online Video Discussion with SVP of YouTube  
**To:** (b) (6)  
**Cc:** "Graubard, Vivian" (b) (6), Johanna Shelton (b) (6), Abbi Tatton (b) (6)

Hi Todd,

I hope you are doing well. We were wondering if you and your colleagues might have some time next Tuesday (11/13) to meet with Salar Kamangar, Google's Senior Vice President of YouTube to discuss the rapid growth of the YouTube video platform globally and the developer/content tools that it currently provides to individuals, organizations, and businesses.

Sincerely,  
George

--  
George Ivanov

Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) . (b) (6)

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
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(b) (6) Google Voice

(b) (6) .

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice

(b) (6) .

---

**From:** Will Patrick (b) (6)  
**Sent:** Friday, November 09, 2012 2:36 PM  
**To:** Kalil, Thomas A.  
**Cc:** Astro Teller; Megan Smith  
**Subject:** Ag idea / moonshot summit?

Hi Tom,

First - congrats on the re-election!

I wanted to follow up with you on a few things ...

- (1) Regina Dugan mentioned that you might know of a moonshot around growing ag products much more densely. Is that case? If so, that sounds pretty interesting to us - a possible Solve for X talk?
- (2) I believe you delayed the 'grand challenge summit' until after the election. Let us know how we can help with that.
- (3) We're super happy to have you out here for Solve for X 2013 - we'll be following up with registration details in a couple weeks. As reminder the event is Feb 6-8 (save the date is below).

Cheers,  
Will

# SOLVE FOR <X>

A forum to encourage and amplify technology-based moonshot thinking and teamwork.

SAVE THE DATE

"Any sufficiently advanced technology is indistinguishable from magic."

-Arthur C. Clark

We invite you to join us on February 6-8, 2013 for **Solve for X**, an intimate event for a small group of exceptional scientists, entrepreneurs, and technologists, to discuss and debate audacious science and technology projects designed to radically improve the world.

We look forward to having you join us,

**Eric Schmidt, Megan Smith and Astro Teller**

[www.wesolveforx.com](http://www.wesolveforx.com)

## location

Cordevalle Resort  
One Cordevalle Club Drive  
San Martin, CA 95046

## accommodations

Hotel accommodations will be provided for attendees on Wednesday, February 6 – Thursday, February 8.

## schedule

Wednesday, February 6 –  
Friday, February 8, 2013  
Opening reception on Wednesday before dinner  
with closing remarks on Friday afternoon.\*

\* The schedule is still being finalized—more details to follow with formal invite in coming weeks.  
This is an invitation-only event. Your invite is non-transferable.

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\* The schedule is still being finalized—more details to follow with formal invite in coming weeks.

This is an invitation-only event. Your invite is non-transferable.



---

**From:** Dorgelo, Cristin  
**Sent:** Wednesday, January 23, 2013 5:02 PM  
**To:** Kathy Cooper  
**Subject:** RE: Solve for X event website

Hi Kathy:

You managed to get me access to the Solve for X website last week using my (b) (6) Google account, so I think I'm all set.

Best,  
Cristin

**From:** Kathy Cooper [mailto:(b) (6)]  
**Sent:** Wednesday, January 23, 2013 12:56 PM  
**To:** Dorgelo, Cristin  
**Subject:** Solve for X event website

Dear Cristin,

I'd like to share the 2013 Solve for X event website with you, but due to the site's privacy settings, the site can only be shared with Google accounts that have been whitelisted.

Do you happen to have a Google account that I could give access to?

Many thanks,  
Kathy

---

**From:** George Ivanov (b) (6)  
**Sent:** Friday, November 09, 2012 4:31 PM  
**To:** Graubard, Vivian  
**Cc:** Park, Todd; Johanna Shelton; Abbi Tatton; Edelman, R. David  
**Subject:** Re: Online Video Discussion with SVP of YouTube

+David

Hello Vivian,

Yes, we reached out to David for the same meeting and we look forward to seeing all of you at 3:00 pm on Tuesday. We will try to get our clearance information to you asap.

Sincerely,  
George

On Fri, Nov 9, 2012 at 4:03 PM, Graubard, Vivian (b) (6) wrote:

Hi George,

I spoke with David Edelman on our team and it seems that they were also hoping to schedule a meeting with him, so we're going to double up and make this one meeting on the 13<sup>th</sup> from 3-4 (a time recommended by Salar to David).

Is this correct?

Best,

Vivian

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 12:36 PM  
**To:** Park, Todd  
**Cc:** Graubard, Vivian; Johanna Shelton; Abbi Tatton

**Subject:** Online Video Discussion with SVP of YouTube

Hi Todd,

I hope you are doing well. We were wondering if you and your colleagues might have some time next Tuesday (11/13) to meet with Salar Kamangar, Google's Senior Vice President of YouTube to discuss the rapid growth of the YouTube video platform globally and the developer/content tools that it currently provides to individuals, organizations, and businesses.

Sincerely,

George

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George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) . (b) (6)

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) . (b) (6)

---

**From:** Jon Orwant (b) (6)  
**Sent:** Monday, November 12, 2012 4:30 AM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton; George Ivanov  
**Subject:** Re: Google Cambridge visit

Hi David,

Friday works; I've got a big block free in the middle of the day, so why don't you pick a convenient time.

We're at 5 Cambridge Center, and Google reception is on the 4th floor.

Jon

On Sat, Nov 10, 2012 at 5:41 PM, Edelman, R. David (b) (6) wrote:

Thanks, Johanna.

Jon, great to make your acquaintance. Word on the Google street is that you are THE person to discuss these issues, and in a fortuitous coincidence, I find myself in Cambridge late next week. Hoping we could have an informal chat if you're free – perhaps Friday? Let me know if you have some time. Happy to swing by your office; I'll be mobile.

Cheers,

**R. David Edelman**

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 6:08 PM  
**To:** Edelman, R. David; Jon Orwant  
**Cc:** George Ivanov  
**Subject:** Google Cambridge visit

David - per our conversation, I wanted to connect you to Jon Orwant, a longtime Google engineering manager in Cambridge. I hope you two can find a convenient time late next week for you to swing by our Cambridge office and talk to Jon about some of the work his team does.

Have a great trip to beantown!

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, November 09, 2012 6:08 PM  
**To:** Edelman, R. David; Jon Orwant  
**Cc:** George Ivanov  
**Subject:** Google Cambridge visit

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Have a great trip to beantown!

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, November 09, 2012 6:57 PM  
**To:** Edelman, R. David  
**Subject:** security info

Matthew Bye was born in Australia (not Austria) so thanks for confirming and double checking that i inputted that in the right way.

we're still working on the YT security info and know you need it by Mon am. so hopefully soon

thanks & have a great weekend

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6).

---

**From:** Vint Cerf (b) (6)  
**Sent:** Monday, November 12, 2012 4:44 AM  
**To:** Kalil, Thomas A.  
**Subject:** Fwd: Obama: innovation, entrepreneurship, jobs program

tom,

do you know the answer?

v

----- Forwarded message -----

**From:** David Nordfors (b) (6)  
**Date:** Sun, Nov 11, 2012 at 9:29 AM  
**Subject:** Obama: innovation, entrepreneurship, jobs program  
**To:** "Vinton G. Cerf" (b) (6) Curtis Carlson (b) (6)

Do you know who runs Obamas innovation & jobs initiatives over at the white house? I will try to find out!

<http://www.technology-digital.com/web20/barack-obamas-new-plans-for-the-technology-industry>

Sent from my iPhone



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**From:** Edelman, R. David  
**Sent:** Monday, January 28, 2013 6:38 PM  
**To:** Johanna Shelton (b) (6)  
**Cc:** FN-WHO-NEC\_Policy  
**Subject:** Self-Driving Cars

Hey Johanna,

Here's an off-the-wall one: Who does self-driving cars in your shop? I'd like to have someone on my team work with them to set up a meeting/briefing between our team on the issue and yours. It's someone in which we have a fair amount of interest (which, I swear, pre-dates CES and Davos).

Cheers,  
-rD

<><><><><><><><>

**R. David Edelman**

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)



--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice

(b) (6)

---

**From:** Vint Cerf (b) (6)  
**Sent:** Monday, November 12, 2012 9:23 AM  
**To:** Alec Ross; Ari Schwartz; bruce andrews; francisco sanchez; Jane Lute; Larry Strickling; mark weatherford; Sapiro, Miriam; pat gallagher; Philip L Verveer; Rich O'Lear; Kalil, Thomas A.  
**Subject:** Fwd: eg update

----- Forwarded message -----

**From:** Bremmer, Ian (b) (6)  
**Date:** Mon, Nov 12, 2012 at 8:17 AM  
**Subject:** eg update  
**To:** Vinton Cerf (b) (6)

dear vint,

well, the us election went pretty much as expected. i'm only surprised there were so many folks who thought a romney win was likely. that case couldn't be made analytically. maybe it was a matter of media bias for those primarily watching sources with a more right-wing bent, or a desire to resonate with business folks that were happier with that call. no matter. what's done is done.

(but...if you can't wait to look ahead to 2014, it's a rather different picture. the democrats have to defend 20 seats to just 13 for the republicans, and only one gop member, susan collins (r-me), will be running for re-election in a state that obama won in either 2008 or 2012; among democrats, a number of seats are vulnerable.)

onward! first, the fiscal cliff, the great market moving force of post-american elections, is not going to happen. it's a big enough worry (especially in europe, where i heard far more concerns about the cliff than the eurozone crisis) that it merits the first piece today. second, the various ways the brics are growing further apart, not together, as they continue to grow. then a new and rather different grouping from me --the jibs (japan, israel, and britain)--the three geopolitically challenged countries of the g-zero world. and a few bits and pieces from the middle east and china.

#### **the fiscal cliff**

president obama and house speaker john boehner called on

each other to compromise on the fiscal cliff and quickly announced a meeting to start working on a deal. but the markets aren't buying it. the view is that it's all posturing: it's the same government as before, and so the same gridlock. not so, or at least, not on this issue.

the leadership of both the democrats and the republicans are well aware that they don't benefit from driving american policy into sudden and direct economic decline. to be sure, there's still likely to be a great deal of partisan rancor, especially as both parties look to set markers given the competing public narratives about what last tuesday's results actually "mean." but there are strong motivations on both sides to come to resolution on the fiscal cliff, and it's coming by the end of the year.

that's more easily done because it's a very limited agreement, essentially a bridge to 2013. for house speaker boehner, getting something done is personal. a decision by boehner to refuse an initial "bridging deal" to avoid the cliff would undermine the strong political position he presently enjoys in the house--having returned with a republican majority and without meaningful competition for the speakership. boehner's leverage will be greater in waiting to pull out the "big guns" for the broader negotiations next year, not returning to partisanship during the lame duck session. and while boehner has limited capacity to ride herd on his party members when serious policy issues are at play, that's not going to prevent him from securing enough votes for a bridging deal.

president obama no longer has the concerns about his own position, but he doesn't yet want to squander political capital. if obama intends to claim a significant mandate for economic policy (which he'll certainly try to do), that has a better chance of success if he uses the short term deal as a marker to lay out his "new vision" for bipartisan cooperation--a much bigger discussion on the deficit, education, infrastructure, and immigration. most of that vision will face a seriously uphill battle in a divided congress (though there's a lot more scope for new policy if american growth continues to pick up pace). but the administration is going to make the effort, not risk stopping the process when the important issues aren't yet at stake.

the democrats and republicans don't agree on many fundamental aspects of fiscal policy, and last tuesday's election results did nothing to bring them closer together. but they don't need a grand bargain on fiscal policy to avoid the cliff. they just need an agreement that gets them past the looming budgetary deadlines, avoiding mandatory

sequestration and its resulting drag on the economy. even in the worst potential case--with obama sticking to principle and deciding to dig in short-term on tax rates for the wealthy, and republicans standing him down, a short-term deal can still get done at the last minute. that means some form of compromise on tax policy (capping deductions and/or setting new rates for the wealthy) and waiving the sequester. the only pieces of the fiscal cliff likely to occur at the end of the year are the cut in payroll taxes and long term unemployment benefits, which amount to about 1% of american gdp. more fiscal myth than cliff, no recession.

## **brics**

with goldman sachs and the oecd both putting out long term global economic projections last week, it's hard to avoid talk of the growing economic colossus that is the brics--**brazil, russia, india and china**. big and getting bigger, leading the way for global emerging markets that now account for some 2/3 of the world's economic growth, meeting in their own summits, you can almost guarantee a new spate of bric reports, investment strategies, and the like. but very unlike the developed world, which largely hangs together in preferences, values, and political and economic system; it's wrong to think of the brics as an effective bloc, or, indeed, in any serious way economically or politically linked.

a few points that bear consideration:

1) **it's all about china**. the brics are fundamentally about china to a much greater degree than the g7 used to be about the united states. the chinese economy is now larger than the other brics' put together (also true if you feel like including south africa, which is roughly the economic size of china's sixth largest province) and that gap continues to widen. developments in china--its resource appetites, its political power, its military and cyber capacity--will increasingly dominate the landscape in the developing world. the other bric nations will respond to china, both cooperatively and antagonistically, much more than they work to coordinate with it.

2) **the politics**. politically, the four bric countries represent the widest possible variety of political systems. brazil and india are democracies--brazil's much more consolidated, india's far more decentralized. russia and china are both autocracies--russia is invested in a single individual leader, china is institutionalized in a diverse but aligned group of high level communist party officials. if you wanted to pick four major economies in the world that would have the least capacity to develop cooperative political relations and a

harmonized policy outlook--in terms of getting heads of state to develop robust relations, securing coordination and useful working relations among bureaucracies, even understanding each other's interests and worldview --you would be hard pressed to find any four countries less suitable for the task than the brics.

3) **the economics.** in russia and china the state is the dominant force in the economy. and despite significant economic reasons to move away from a state capitalist system, both governments see strong political reasons to avoid near-term change (regime stability, security, opacity, and wealth generation), and so are committing further resources to their present trajectory. brazil and india are both hybrid systems, leaning somewhat more free market than state capitalist, and both are trending significantly further in that direction. that affects the policy strategy of the brics: china sees itself as better off engaging in bilateral relationships, where it's much bigger and can drive outcomes to its own preference. brazil and india tend toward more rule-based multilateral engagements, while russia fits uncomfortably on its own. and among all four, economic interdependencies remain far more important between various bric members and the developed world than between the brics themselves.

4) **the resources.** russia and brazil are major resource exporters. india and china are not. india and china are not yet seriously competing with one another for resources, but as demographics shift between the two countries and the indians become more infrastructure intensive and urban, they will. russia is increasingly threatened geopolitically by the energy revolution now taking place in the western hemisphere. brazil has the most balanced and sustainable resource trajectory, and is well hedged in trade relations globally to ensure that continues to be the case. as the geopolitics of energy shift dramatically over the coming decade, these differences will become more important in creating fundamental policy conflict between the brics.

5) **the geopolitics.** here, geography dominates. russia and china have competing influence over each other's backyard that causes mistrust, particularly as china's military and economic power grows (though china's principal geopolitical concern--east and southeast asia--is an area where the russians have little and receding influence). that's also true between india and china, though cooperation in bilateral economic relations is likely to prove more important, at least for the near term. and brazil, buffered from the world's principle geopolitical tensions, generally doesn't play a significant geopolitical role. geopolitics does little to drive the brics apart (at least, for now), but it also plays little role in creating

shared interests.

the principal link between the brics is their "otherness" --the fact that they're not the developed world. but as the developed world itself becomes more inward looking and us -led globalization fragments, even that factor fades in importance.

in short, as a group, the brics are on the road to becoming much less, not more relevant. as china grows in power, the groupings around its borders will be more concerned with that. the fragmentation of globalization will create divisions between developed and emerging markets that will become some of the world's most important. and, dare i say, when china becomes the largest economy in the world, we're likely to stop talking about emerging markets as a category.

### **the jibs**

so forget about the brics. for something completely different, the most interesting new category of states geopolitically, and in many ways the most problematic, are the jibs --japan, israel, and britain. all three have had "special relationships" of various sorts with the united states which presently face a level of uncertainty as to their importance and relevance (though not, to be clear, about their existence). at the same time, each are standing alongside structural developments in their neighborhood that both overshadow and exclude them, potentially to a dangerous extent --china rising, the arab spring/winter, and the eurozone crisis. and each government has significant domestic constraints in the action they can take to mitigate that growing risk.

for **japan**, it's all about china. while beijing works to develop stronger economic integration with other countries across the region (including south korea), effectively a taiwan type policy, that's not possible with japan. historic and cultural enmity prevents it, as does the size of the japanese economy. and japan's military alliance with the united states, combined with the fact that china increasingly doesn't feel like it needs japan economically, is leading to a chinese policy of isolating and provoking japan. japan's initial strategic response, as announced in the last few days, is to amend the military alliance with the united states --the only obvious direction they can go. the question will be whether they end up excluded from the chinese market and even economic development and integration in the region more broadly as china evolves as the dominant economic force in asia. and further, can japan maintain their strong alliance with the united states if it remains a largely asymmetrical military relationship.

in **israel**, the deterioration of the geopolitical environment



couldn't be clearer. it's hardly new to the country that they have a deeply problematic neighborhood, but the arab spring has created much more uncertainty. three key moderate arab states have taken harder line policies towards israel, to be more in tune with their increasingly politically engaged and powerful domestic populations--egypt, jordan, and turkey. further, instability in syria spilling over its borders, along with a growing shia-sunni conflict (and growing sunni regime integration), have proven insufficient to engage the international community towards compelling a solution...but all of which makes israel more vulnerable. and i haven't even mentioned the potential for conflict from an increasingly desperate/economically and politically pressured iran. israel still dominated the foreign policy debate in the american presidential election, but a growing trend towards isolationism in the tea-party, and "us nation building first" among democrats makes the longer term relationship a matter of growing worry for israelis.

and then **britain**, where there's no military conflict brewing around its borders, but the depth of the eurozone crisis is compelling far deeper integration in the continent...that it stands apart from. as the eurozone moves towards common banking supervision and fiscal integration, great britain standing apart is likely to create meaningful gaps in economic regulatory standards that prove expensive for companies to navigate, and create inefficiencies in trade. they also create a greater political gap--making the prospects of british exit from the european union ultimately more likely (indeed, i'd argue more likely than nearer term greek exit). britain retains an extremely warm and durable special relationship with the united states...but one that doesn't occupy much attention from either country's government, as it is less relevant to global, or even regional challenges. ultimately, the us relationship with germany is going to drive far more important transatlantic relations for the us (perhaps even for nato, longer term, but certainly in terms of the world's evolving economic architecture).

for all three, the world is quickly undermining core elements of each nation's strategy, making their geopolitical environments far more problematic. that's not resolvable. nonetheless, each does have potential strategies for improving its position. japan putting economic relations first with the us to avoid unduly provoking china and to build more durable integration with other asian countries concerned with china's rise. israel resolving their palestinian crisis and working to get relations with countries alienated by the crisis on a better footing. and great britain taking political steps with brussels and berlin to ensure their relations with the new emerging europe remain intact. but there are enormous domestic

obstacles in the populations of all three countries that act as roadblocks for these policy orientations; indeed, instead moving the countries in precisely the opposition direction.

the jibs aren't about to become the new hot banking term for attracting investment, to be sure. but i suspect we're going to be hearing quite a bit more of them as the three most important geopolitical developments in the world to day continue to work against them.

\* \* \*

### **odds and ends**

there are rumors growing that the new **egyptian** constitution will not only have a more prominent role for islam, but will explicitly refer to "sunni islam". that's never happened in an official text. that's probably the result of more direct saudi influence on egyptian politics as riyadh tries to consolidate its political sway over the sunni states of the region, limiting partnerships with iran. combined with recent escalation of tensions between sunni and shiia in bahrain (bigger bombing attacks from shiia majority, hard line from bahrain), and it's two important data points in the entrenchment of sectarianism. the saudi preference is a stronger gulf cooperation council--regional ties and architecture--with europe as the ultimate model. the only (rather important) difference...is it's explicitly sunni, and accordingly excludes a significant part of the regional population. not exactly the way the europeans wanted to be a model.

onto **syria**. according to the chinese foreign ministry, the east turkestan islamic movement, a uighur separatist group based in xinjiang (western china), has reportedly started providing assistance to the syrian opposition. chinese officials claim they're collecting funds through drug trafficking, kidnapping and robbery. it's impossible to assess the accuracy of the claims, but the political impact is clear--china is intending to harden their position against the syrian opposition. we'll likely see more collaboration between china and russia on the issue. it's only getting harder to bring progress in syria.

and also **china**...where government money can buy many things--but not an end to protests in tibet. last month, on the eve of the leadership transition process, the chinese government posted signs in gannan prefecture inside tibet offering an \$8,000 reward to anyone providing information "on the people who plan, incite to carry out, control and lure people to commit self-immolation." in response, the number of tibetans lighting themselves on fire quickly increased. it's an irritant for beijing, but not a priority. proving very sad for

the tibetans--in the past four years, 69 have set themselves  
alight, 54 have died.

\* \* \*

as for me, i've just arrived in dubai for the last stop o f this  
longish trip. then i'm heading back to post-hurricane, post-  
elections, post-setting the clocks back new york.

(b)(6)



very truly yours,  
ian

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**From:** Vint Cerf (b) (6)  
**Sent:** Monday, November 12, 2012 9:53 AM  
**To:** Kalil, Thomas A.  
**Subject:** RE: Obama: innovation, entrepreneurship, jobs program

Wow! Want some more help? :-)

On Nov 12, 2012 9:46 AM, "Kalil, Thomas A." (b) (6) wrote:

Dear Vint:

No one person covers all of these issues, but we all collaborate to make sure that the key issues get covered.

Todd Park and his team are focused on the Presidential Innovation fellows, Open Data in health, energy, public safety, education, etc., Open Government, digital inclusion, the application of IT to stop human trafficking, electronic health records, etc.

Tom Power works on spectrum management and telecom/Internet policy more broadly.

My team (which has grown since we last talked) covers research funding (Kei Koizumi); Startup America (Doug Rand), STEM education, the Maker Movement, and next generation learning technologies (Kumar Garg), tech transfer and next - generation networks (Nick Maynard), multi -agency research initiatives in robotics (Vijay Kumar), Big Data, Materials Genome (Cyrus Wadia), and the Brain Activity Map; Grand Challenges and the use of incentive prizes (Christin Dorgelo), the role of innovation in global health/development (Robynn Steffen), and the convergence of biology, the physical sciences, and engineering (Robbie Barbero). See my attached presentation to the Kennedy School which has some slides on these topics.

We also have divisions at OSTP that work on science, energy and environment, and national security/international affairs.

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Monday, November 12, 2012 4:44 AM  
**To:** Kalil, Thomas A.  
**Subject:** Fwd: Obama: innovation, entrepreneurship, jobs program

tom,

do you know the answer?

v

----- Forwarded message -----

From: **David Nordfors** (b) (6)

Date: Sun, Nov 11, 2012 at 9:29 AM

Subject: Obama: innovation, entrepreneurship, jobs program

To: "Vinton G. Cerf" (b) (6) Curtis Carlson (b) (6)

Do you know who runs Obamas innovation & jobs initiatives over at the white house? I will try to find out!

<http://www.technology-digital.com/web20/barack-obamas-new-plans-for-the-technology-industry>

Sent from my iPhone

Thanks, Sarah!

<><><><><><><><><>

ph: (202 (b) (6) | bb: (202 (b) (6) (b) (6)

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**From:** Edelman, R. David  
**Sent:** Tuesday, January 29, 2013 7:54 PM  
**To:** Charlie Hale  
**Subject:** RE: Visit for Thurs/Fri

Fantastic, thanks, Charlie!

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 7:52 PM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sure! Mountain View on Friday morning works well. I emailed the team so I'll get back to you as soon as I have some times nailed down.

On Tue, Jan 29, 2013 at 4:18 PM, Edelman, R. David (b) (6) wrote:

I'll actually already be down south that morning/afternoon, so MV is probably best, no?

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 7:17 PM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sounds great!

Would you like to meet in the Google SF office and we can video conference with anyone from the chauffeur team, or meet in Mountain View?

-Charlie

On Tue, Jan 29, 2013 at 4:09 PM, Edelman, R. David (b) (6) wrote:

Thanks, Sarah!





--  
Charlie Hale | Google Public Policy (b) (5)

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**From:** Edelman, R. David  
**Sent:** Tuesday, January 29, 2013 7:19 PM  
**To:** Charlie Hale  
**Subject:** RE: Visit for Thurs/Fri

I'll actually already be down south that morning/afternoon, so MV is probably best, no?  
-rD

**From:** Charlie Hale [mailto:(b) (5)]  
**Sent:** Tuesday, January 29, 2013 7:17 PM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sounds great!

Would you like to meet in the Google SF office and we can video conference with anyone from the chauffeur team, or meet in Mountain View?

-Charlie

On Tue, Jan 29, 2013 at 4:09 PM, Edelman, R. David (b) (6) wrote:

Thanks, Sarah!

Charlie, great to chat earlier. One note per our prior discussion: it's looking like morning/pre -lunch on Friday is preferable to afternoon, if possible.

Cheers,

-David

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**R. David Edelman**

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** Sarah Price [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 3:39 PM  
**To:** Edelman, R. David; hale  
**Subject:** Visit for Thurs/Fri

Hi David,

I want to introduce you to Charlie Hale. Charlie works on public policy for Glass and self-driving cars, and would love to meet when you are in town. He's copied on this email, and you can also call him at (b) (6)

Best,

Sarah

--

Charlie Hale | Google Public Policy (b) (6)

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+David

Hello Vivian,

Yes, we reached out to David for the same meeting and we look forward to seeing all of you at 3:00 pm on Tuesday. We will try to get our clearance information to you asap.

Sincerely,

George

On Fri, Nov 9, 2012 at 4:03 PM, Graubard, Vivian (b) (6) wrote:

Hi George,

I spoke with David Edelman on our team and it seems that they were also hoping to schedule a meeting with him, so we're going to double up and make this one meeting on the 13<sup>th</sup> from 3-4 (a time recommended by Salar to David).

Is this correct?

Best,

Vivian

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 12:36 PM  
**To:** Park, Todd  
**Cc:** Graubard, Vivian; Johanna Shelton; Abbi Tatton

**Subject:** Online Video Discussion with SVP of YouTube

Hi Todd,

I hope you are doing well. We were wondering if you and your colleagues might have some time next Tuesday (11/13) to meet with Salar Kamangar, Google's Senior Vice President of YouTube to discuss the rapid growth of the YouTube video platform globally and the developer/content tools that it currently provides to individuals, organizations, and businesses.

Sincerely,

George

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

--

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Policy Analyst | Google Inc.  
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(b) (6) (b) (6)

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George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)



**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 4:31 PM  
**To:** Graubard, Vivian  
**Cc:** Park, Todd; Johanna Shelton; Abbi Tatton; Edelman, R. David  
**Subject:** Re: Online Video Discussion with SVP of YouTube

+David

Hello Vivian,

Yes, we reached out to David for the same meeting and we look forward to seeing all of you at 3:00 pm on Tuesday. We will try to get our clearance information to you asap.

Sincerely,

George

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Is this correct?

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Vivian

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**Sent:** Friday, November 09, 2012 12:36 PM  
**To:** Park, Todd  
**Cc:** Graubard, Vivian; Johanna Shelton; Abbi Tatton



**Subject:** Online Video Discussion with SVP of YouTube

Hi Todd,

I hope you are doing well. We were wondering if you and your colleagues might have some time next Tuesday (11/13) to meet with Salar Kamangar, Google's Senior Vice President of YouTube to discuss the rapid growth of the YouTube video platform globally and the developer/content tools that it currently provides to individuals, organizations, and businesses.

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George

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(b) (6) . (b) (6)

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(b) (6) . (b) (6)

--

George Ivanov

Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) . (b) (6)

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**From:** Jon Orwant (b) (6)  
**Sent:** Monday, November 12, 2012 7:59 PM  
**To:** Edelman, R. David  
**Subject:** Re: Google Cambridge visit

Sounds good. See you then.

Jon

On Mon, Nov 12, 2012 at 7:57 PM, Edelman, R. David (b) (6) wrote:

Jon,

Fantastic. Shall we say 10:00am Friday?

Cheers,

-David

**From:** Jon Orwant [mailto:(b) (6)]  
**Sent:** Monday, November 12, 2012 4:30 AM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton; George Ivanov  
**Subject:** Re: Google Cambridge visit

Hi David,

Friday works; I've got a big block free in the middle of the day, so why don't you pick a convenient time.

We're at 5 Cambridge Center, and Google reception is on the 4th floor.

Jon

On Sat, Nov 10, 2012 at 5:41 PM, Edelman, R. David (b) (6) wrote:

Thanks, Johanna.

Jon, great to make your acquaintance. Word on the Google street is that you are THE person to discuss these issues, and in a fortuitous coincidence, I find myself in Cambridge late next week. Hoping we could have an informal chat if you're free – perhaps Friday? Let me know if you have some time. Happy to swing by your office; I'll be mobile.

Cheers,

**R. David Edelman**

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 6:08 PM  
**To:** Edelman, R. David; Jon Orwant  
**Cc:** George Ivanov  
**Subject:** Google Cambridge visit

David - per our conversation, I wanted to connect you to Jon Orwant, a longtime Google engineering manager in Cambridge. I hope you two can find a convenient time late next week for you to swing by our Cambridge office and talk to Jon about some of the work his team does.

Have a great trip to beantown!

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Tuesday, November 13, 2012 9:57 AM  
**To:** Edelman, R. David  
**Subject:** quick question

do you know who on your end will be at the 3pm YouTube meeting?

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6).

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Tuesday, November 13, 2012 11:31 AM  
**To:** Edelman, R. David  
**Subject:** Re: quick question

great - thanks!

On Tue, Nov 13, 2012 at 11:16 AM, Edelman, R. David (b) (6) wrote:  
Tentatively:

Me  
Tom Kalil, OSTP  
Andrew Cedar (NSS Dir for Global Engagement)  
Victoria Espinel  
Possibly: Todd Park  
Possibly: Jason Furman or Greg Nelson, NEC

Also, Vivian will be in touch momentarily, as she needs some clarification on your clearance info. Thanks!

---

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 13, 2012 09:57 AM  
**To:** Edelman, R. David  
**Subject:** quick question

do you know who on your end will be at the 3pm YouTube meeting?

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Tuesday, November 13, 2012 12:30 PM  
**To:** Edelman, R. David  
**Subject:** Where is the 2pm patent mtg?

Room #?

Thanks

---

**From:** George Ivanov (b) (6)  
**Sent:** Tuesday, November 13, 2012 5:45 PM  
**To:** Edelman, R. David  
**Subject:** Follow-Up to Today's Meeting

Hello David,

Thank you for hosting the discussion earlier today and please feel free to reach me on my direct line (202 (b) (6) or cell (b) (6) for any follow-up information or other questions you might have.

Also, I wanted to invite you to an informal tech policy happy hour that is happening later this week, which will feature folks involved in the Internet Policy space from the public sector, private sector, and non-profit communities. This is not a Google sponsored event, but at least a few of us are planning to attend.

What: Tech Policy Happy Hour  
When: Weds Nov 14 @ 5:30pm  
Where: Local 16 - 16th @ U St.

Sincerely,  
George

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)



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**From:** Johanna Shelton (b) (6)  
**Sent:** Wednesday, November 14, 2012 11:57 AM  
**To:** Edelman, R. David  
**Subject:** Thanks for yesterday's mtg

David - thanks again for all your effort for yesterday's meetings - especially Salar's meeting. From my perspective, it was fascinating to have all those folks in one place! Let me know if there is any followup on your end - and have fun at MIT.

**From:** George Ivanov (b) (6)  
**Sent:** Thursday, November 15, 2012 10:04 AM  
**To:** Edelman, R. David  
**Subject:** Re: Follow-Up to Today's Meeting

Hello David,

Absolutely. I will make sure to invite you to the next event. Johanna and I both focus on all policy issues that might relate to Google and the company's products, many of which cut across OSTP's mission areas, so please feel free to reach out to either one of us for any questions that you might have. My work and academic background has spanned a wide array of technical issues, ranging from international cybersecurity research to standardization for cloud computing services.

Sincerely,  
George

On Wed, Nov 14, 2012 at 3:02 PM, Edelman, R. David (b) (6) wrote:

George,

A pleasure meeting you, and thanks for coming yesterday. My information, should you need me, is below. Appreciate the invite – I have a meeting I can't miss across the street, but I'll be at the next one!

By the way, as I navigate your office – what are the issues on which you principally focus?

Cheers,

-David

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## R. David Edelman

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Tuesday, November 13, 2012 5:45 PM  
**To:** Edelman, R. David  
**Subject:** Follow-Up to Today's Meeting

Hello David,

Thank you for hosting the discussion earlier today and please feel free to reach me on my direct line (b) (6) or cell (b) (6) for any follow-up information or other questions you might have.

Also, I wanted to invite you to an informal tech policy happy hour that is happening later this week, which will feature folks involved in the Internet Policy space from the public sector, private sector, and non-profit communities. This is not a Google sponsored event, but at least a few of us are planning to attend.

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When: Weds Nov 14 @ 5:30pm

Where: Local 16 - 16th @ U St.

Sincerely,

George

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George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

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**From:** Edelman, R. David  
**Sent:** Wednesday, January 30, 2013 1:47 PM  
**To:** Charlie Hale  
**Subject:** RE: Visit for Thurs/Fri

Charlie,

That's fantastic, thank you. Actually, yes, I would – if I'm going to be writing policy on the technology, makes sense to see it in action. 10 and 10:30am is fine, and could even do a bit earlier (9:30 or 9:45) if there is appetite to go a bit more in-depth, as I certainly would be interested.

Let me know the coordinates and who might be joining, and looking forward to it.

Cheers,  
-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Wednesday, January 30, 2013 11:15 AM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Hi David,

I heard back from a few of the team leads and we'd love to have you down on Friday morning. Would you be interested in getting a demo in the car? We'd be happy to take you out for a ride if you have time.

Also what time works best for you? I was thinking we could meet with some folks at 10:00, talk for about 30 minutes and then get a demo around 10:30. What do you think?

Looking forward to it!  
-Charlie

On Tue, Jan 29, 2013 at 4:53 PM, Edelman, R. David (b) (6) wrote:

Fantastic, thanks, Charlie!

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 7:52 PM

**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri



ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** Sarah Price [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 3:39 PM  
**To:** Edelman, R. David; hale  
**Subject:** Visit for Thurs/Fri

Hi David,

I want to introduce you to Charlie Hale. Charlie works on public policy for Glass and self-driving cars, and would love to meet when you are in town. He's copied on this email, and you can also call him at (b) (6)

Best,

Sarah

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Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)



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**From:** Astro Teller (b) (6)  
**Sent:** Thursday, November 15, 2012 12:04 PM  
**To:** Kalil, Thomas A.  
**Cc:** Will Patrick; Megan Smith; Dorgelo, Cristin  
**Subject:** Re: Ag idea / moonshot summit?

Hi Tom,

We'd have to talk again to make sure we understand timing, audience, expectations, etc. But I do think we still have such a Grand Challenge to propose - providing internet connectivity to every single human on the planet.

:)

A

On Sat, Nov 10, 2012 at 4:12 PM, Kalil, Thomas A. (b) (6) wrote:

Dear team:

At least 3 ways in which Google could help – and we are happy to brainstorm with you on these.

1. Have an exciting Grand Challenge to announce in March 2013 that is even more awesome than a self-driving car, AI that recognize cats using unsupervised machine learning, or Project Glass. ☺

2. Have a promoted/curated YouTube “Grand Challenges” channel. This could include (a) descriptions of big problems in energy, water, health, education, exploration, fundamental science, emerging technologies ; (b) vignettes of teams that are pursuing grand challenges. Goal would be to increase grand challenge thinking among general public, students, entrepreneurs, investors, etc.

3. Google-wide brainstorming.

- If you could call anyone and ask them to embrace a grand challenge – who would you call and what would you ask them to do? E.g.

Department of Energy – SunShot - solar cheaper than coal



Elon Musk/SpaceX – “I want to die on Mars, but not on impact.” Humanity as multi-planetary species.

DARPA – New York to LA in 11 minutes, 100 year Starship.

Neil Gershenfeld, PARC– Replicator

Qualcomm – Tricorder X prize

Pronutria – 10x production in protein production/acre on non -arable land

Acuitus – raise the wages of someone w/o a college degree by \$20,000 in less than 4 months

MOOC Movement – K-20 curriculum available in x major languages for free

Research community in neuroscience, nanoscience, synthetic biology, and optogenetics – Brain Activity Map (see attached article in Neuron)

Maker Education Initiative + hundreds of thousands of skilled volunteers – Every Child a Maker

Neal Stephenson’s “Young Lady’s Illustrated Primer”

Terraform Mars.

A bottom-up solution to a huge social problem – online organizing for online activism – like 100,000 Homes Campaign

**From:** Will Patrick [mailto:(b) (6)]  
**Sent:** Friday, November 09, 2012 2:36 PM  
**To:** Kalil, Thomas A.  
**Cc:** Astro Teller; Megan Smith  
**Subject:** Ag idea / moonshot summit?

Hi Tom,

First - congrats on the re-election!

I wanted to follow up with you on a few things ...

(1) Regina Dugan mentioned that you might know of a moonshot around growing ag products much more densely. Is that case? If so, that sounds pretty interesting to us - a possible Solve for X talk?

(2) I believe you delayed the 'grand challenge summit' until after the election. Let us know how we can help with that.

(3) We're super happy to have you out here for Solve for X 2013 - we'll be following up with registration details in a couple weeks. As reminder the event is Feb 6-8 (save the date is below).

Cheers,

Will

# SOLVE FOR

A forum to encourage and amplify technology-based moonshot thinking and teamwork.

SAVE THE DATE

"Any sufficiently advanced technology is indistinguishable from magic."

-Arthur C. Clark

We invite you to join us on February 6-8, 2013 for **Solve for X**, an intimate event for a small group of exceptional scientists, entrepreneurs, and technologists, to discuss and debate audacious science and technology projects designed to radically improve the world.

We look forward to having you join us.

**Eric Schmidt, Megan Smith and Astro Teller**

[www.wesolveforx.com](http://www.wesolveforx.com)

## location

Cordevalle Resort  
One Cordevalle Club Drive  
San Martin, CA 95046

## accommodations

Hotel accommodations will be provided for attendees on Wednesday, February 6 – Thursday, February 8.

## schedule

Wednesday, February 6 –  
Friday, February 8, 2013

Opening reception on Wednesday before dinner  
with closing remarks on Friday afternoon.\*

\* The schedule is still being finalized—more details to follow with formal invite in coming weeks.  
This is an invitation-only event. Your invite is non-transferable.

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- Astro

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**Sent:** Thursday, January 31, 2013 6:00 PM  
**To:** 'Charlie Hale'  
**Subject:** RE: Visit for Thurs/Fri

Sure, why not? Let's do 9:30. Give me the address and building number, and I'll see you in the lobby.

-----Original Message-----

**From:** Charlie Hale (b) (6)  
**Sent:** Thursday, January 31, 2013 01:22 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

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Sound good?

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Let me know the coordinates and who might be joining, and looking forward to it.

Cheers,

-rD

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Looking forward to it!

-Charlie

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**From:** Charlie Hale [mailto:(b) (6)]  
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R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** Sarah Price [mailto:(b) (6)]  
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Charlie Hale | Google Public Policy (b) (6)

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**From:** Vint Cerf (b) (6)  
**Sent:** Monday, November 19, 2012 8:51 AM  
**To:** Alec Ross; Ari Schwartz; bruce andrews; francisco sanchez; Jane Lute; Larry Strickling; mark weatherford; Sapiro, Miriam; pat gallagher; Philip L Verveer; Rich O'Lear; Kalil, Thomas A.  
**Subject:** Fwd: eg update

----- Forwarded message -----

**From:** Bremmer, Ian (b) (6)  
**Date:** Mon, Nov 19, 2012 at 8:17 AM  
**Subject:** eg update  
**To:** Vinton Cerf (b) (6)

dear vint,

just back from what's feeling like a very g-zero middle east, and that's clearly where we should be spending time this week. israel/gaza to begin with and, again, at the brink of war. then to syria, where violence continues to expand, but there's been a fair amount of diplomatic movement. a few thoughts on the new chinese leadership. and three bits and bobs on saudi arabia, argentina, and china.

#### **israel/gaza**

we've seen the pattern of escalation before. this time it was a couple hundred hamas missiles fired into israel, israel responding by killing ahmed jabari, the head of hamas's military wing. the fighting quickly ramped up from there -- hamas missiles firing into tel aviv and jerusalem, israel expanding bombing to government and media targets, with civilian casualties as well. hamas promising war, israel massing troops on the border. and just like that, we're on the brink of yet another war in the middle east.

the israel strategic outlook is much the same, while their geopolitical context has become more problematic. the united states is relatively unengaged in the palestine/israel conflict; moderate governments in the region are more vulnerable to their local populations and have turned more directly against israel. and hamas, provided money and arms from a number of regional sources (most notably qatar and iran) has more military capacity.

that's a dangerous game, but the israeli logic is straightforward. first, israel wants to send the strongest of messages to other actors, government and non-government, contemplating whether israel might be losing its stomach for a fight. second, thwarted at efforts of advancing a two state solution, palestinian authority leader mahmoud abbas had been planning a unilateral announcement of statehood in the united nations later this month. israeli leaders were unhappy with being seen as losing political momentum around the crisis. a fight with hamas squarely takes discussion of the two state solution off the table--the hamas attacks gave israel an excuse. and third, elections--prime minister benjamin netanyahu was facing a serious contender in what was expected to be ehud olmert's imminent return to politics as head of the kadima party. but that's on hold as campaigning has now been suspended...and a decisive military victory in gaza is a huge (short-term) plus for netanyahu's prospects.

but there's nothing but short term logic for both sides in the conflict. gaza youth unemployment stands at 70%. and unlike in, say, greece, the family isn't providing a social safety net. hamas leadership--under pressure from local salafist and jihadist groups openly calling for war--has been leaning towards military options and can't back down absent meaningful political gains that aren't forthcoming. israel can win a war in gaza (unlike lebanon, it's a small territory that israeli forces know extremely well), dramatically reducing hamas's military--and political--capacity, but at the expense of deepening international isolation from allies that are distracted and at best marginally interested, and regional powers tilting more directly towards palestinian sentiments. that could lead to the severing of political ties in the region, negative impact and potentially the rupture of economic ties - as well as the expansion of proxy war to support militant palestinian groups and hezbollah.

of the "jibs" i mentioned last week (japan, israel, britain), israel is in by far the most troubled geopolitical context. the past week has made that rather clearer.

## **syria**

the war continues apace in syria, but with the first meaningful political progress the conflict has seen in months --the announcement of a new, competent, and broadly inclusive syrian political opposition: the "national coalition for syrian revolutionary and opposition forces." it includes some of the most respected syrian figures, religious and secular, and relegates the syrian muslim brotherhood, in principle, to the role of supporting player. there's no cohesion in the group, which came together following pressure from us secretary of



state hillary clinton and the qatari government, in the direct hope (and promise) that aid and arms would be forthcoming.

we'll now see more cash and weapons flow to the syrian rebels. that will bring more international attention to the syria conflict...and expand the violence. whether or not it also serves to bring a more effective fight to president bashar assad and his military, and whether it ultimately helps bring about a new government representative of the syrian people, remains anyone's guess--the rebels are uncoordinated and have no engagement with the opposition as such.

talking to senior political advisors from qatar, saudi arabia, and the emirates last week, i heard a great deal of talk about the "next step" being to create a formal seat for the opposition government in territory presently held by the rebels in syria. apparently that's gotten a formal nod from jordan (which would provide the direct border access), following significant funding pledges from gulf cooperation council states--jordan's king hussein, facing growing internal opposition and violent demonstrations from crippling economic austerity, is in particular need of some help.

one country staying firmly on the sidelines through the backroom negotiations--turkey. indeed, prime minister recep erdogan's expected request for nato support in patrolling the border is not just to create "skin in the game" beyond turkey, but also to minimize the chance that turkey has to do the fighting unilaterally. the last thing erdogan wants is an unpopular and economically costly fight with syria, to say nothing of empowering his own military, given domestic political efforts he's put in to undermine them.

in short, we're about to enter a new, more regionalized, chapter of the syria conflict. it's still far too early to call that an endgame for assad. but it will prove the first meaningful test case for the new geopolitics of today's middle east actors.

## **china**

it's official: we have the new chinese communist party leadership. much has been made of the conservatives "winning" in the final lineup, but the reformer versus conservative distinction was always blurrier than it was made out to be, especially at the top of the communist party. all of china's top leaders agree that significant reform has to occur to allow for the continued stability (and, indeed, viability) of the chinese political system--but very few believe that reform should be free market economic reform, and virtually none support a liberalizing, democratizing political reform. like so many things, it's reform with chinese characteristics. chinese

reform is about improving the social safety net, building out consumption, and ultimately the redistribution of wealth. on that, there's far more consensus, with disagreements on speed and the practicalities of implementation.

and so in terms of the direction of chinese domestic policy, the leadership transition has virtually no impact. on foreign policy, that may or may not be true --the biggest obvious plus from china's new leadership is xi Jinping himself. he speaks and looks to be much more confident than hu Jintao, and by sheer dint of personality (something hu was famously lacking) he's likely to have an outsized role on the international stage. but one of the great uncertainties of chinese foreign policy is that there's not a single observer of chinese politics that has any idea what president xi Jinping's international orientation is. in president xi's party plenary speech last week, there was plenty of talk around the great revival of the chinese nation, which could give pause to many of china's neighbors --but chinese plenary speeches are high theatre and largely inscrutable--audiences can read into them what they want to. in terms of foreign policy, we won't know until we have some data points. the "good news": given president Obama's non-china asia trip this week (and especially with thailand's announcement to join TPP trade talks) as well as roiling tensions over the east and south china sea, we shouldn't have to wait very long for that.

there is one consistent takeaway from all of the major changes around the chinese transition: consolidation at the top. first, it's seven versus nine on the politburo standing committee, and so easier for the top to make high level decisions. second, president hu Jintao stepped down from his military post, making room for president xi Jinping to take the spot immediately. third, prime minister li Keqiang was bumped up from third to second spot in the party hierarchy, again creating more control at the top. and fourth, reformer wang Qishan was not given the economic portfolio (instead put in charge of dealing with corruption --a no win job in china if there ever was one), creating a clearer path for prime minister li to assert control there. all of which is a win for internal harmonization of the chinese communist party--if the threat that worried chinese officials most was having to contend with more bo Xilai-type scandals in the future, there've set up their internal structure to maximize their capacity to react effectively to them.

but looking big picture, it's china's lack of systemic change that is clarifying. the OECD last week came out with a projection that china is set to surpass the united states in terms of purchasing power within four years. we now know who the leaders of the united states and china will be when that occurs.

we also know that china will still be a developing country (and a rather poor one at that), a firmly authoritarian political system (with more of its population clamoring for change), and an only somewhat less firmly state capitalist economy (with expanding elements of its business community operating in the private sector). that's by far the biggest political risk in the international environment, not just in the coming years but, economically speaking, that we've seen since the cold war. it's implausible to imagine that transition going smoothly.

### **bits and bobs**

promising developments in **saudi arabia**, where the head of the religious police (mutawa) announced efforts to recruit more women. while women have been allowed in the religious police before, their presence has been felt through men--and their role includes prevention of women from driving and the enforcement of dress codes. the statement is being seen in the kingdom as an indication of growing liberalism...and a highly visible demonstration that king abdullah's agenda of cautious reform is gathering pace. together with significant movement on succession, the kingdom has shown more capacity than any of the other wealthy oil-rich states in the region to create more internal resilience in what will surely be a shock-filled time. (an aside--given the attention to karen house's book, "on saudi arabia", this week; which portrays a kingdom largely stuck in time)

surprising move in **argentina**, where a local judge--in a country where the judiciary is not particularly independent --decided to freeze \$19 billion of chevron's local assets in order to induce the firm to pay the same amount in damages awarded to the government of ecuador last year (which chevron has not paid, arguing the ruling is illegitimate). the important point here is the precedent--it's the first time argentina has ever inserted itself into the legal affairs of ecuador, particularly unusual given that ypf, argentina's state owned oil company, has been trying to partner with chevron to develop argentina's unconventional energy resources. if this is the beginning of a wider trend, it bodes ill for western multinationals investing in the region. cooperation and solidarity among governments could also create difficulties for corporates trying to seize assets they are owed by these countries--likely to affect a number of firms with cases presently pending against bolivia, ecuador, and venezuela. the only thing more problematic for investment climate than state capitalism? coordinated inter-state capitalism...

and looking at labor in **china**. everybody is aware of the demographic challenges coming in that country. my favorite

stat putting it into context: today, china has three workers for every pensioner. that will fall to two to one by 2030 (making me wonder when the first chinese wag is going to call for a one grandparent policy...). combine that with trends in robotics in manufacturing, as well as the "3-d printing revolution," a decentralizing trend that gives preference to specialization and just-in-time manufacturing, and the intrinsic advantages of the chinese model start looking like a rock tied around their feet over the coming decade.

\* \* \*

i'm back in new york--in a house, and office, that looks much the same as pre-hurricane sandy. exceedingly thankful for that. and quite happy to hear from you.

all best,  
ian

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**From:** Edelman, R. David  
**Sent:** Friday, February 01, 2013 12:35 PM  
**To:** (b) (6)  
**Subject:** Re: Visit for Thurs/Fri

Here in the lobby (bldg 43, correct?)

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**From:** Edelman, R. David  
**Sent:** Monday, February 04, 2013 10:46 AM  
**To:** David Estrada  
**Subject:** RE: my contact info

David,

Thanks so much for taking the time on Friday – it was great meeting you, and appreciated your insights into how we can work towards this vision. I'll definitely want to keep my team in regular touch on this; please let me know the next time you or the team will be in D.C., I'd love to have you come in and speak with my group. We may even want to convene a conference call in the nearer future.

Cheers,  
-rD

**From:** David Estrada [mailto:(b) (6)]  
**Sent:** Friday, February 01, 2013 1:41 PM  
**To:** Edelman, R. David  
**Subject:** my contact info

Hi David. I was just in the meeting with you about the Chauffeur program. Great meeting you. Feel free to reach out to me directly anytime.

mobile (b) (6)

David

--

---

David Estrada | Google[x] Legal Director (b) (6)

**PRIVILEGE AND CONFIDENTIALITY NOTICE:**

This message may contain privileged and confidential information. If you have received this message in error, please notify the sender by return email and then delete the message. Please do not copy or disclose the contents of this message. Thank you.

---

**From:** Megan Stull (b) (6)  
**Sent:** Monday, November 19, 2012 5:19 PM  
**To:** Mielke, Dawn M.; Power, Tom  
**Cc:** Milo Medin; Johanna Shelton; Belvia Sharp  
**Subject:** Information re Attendees of 11-26-12 Meeting with Tom Power  
**Attachments:** WAVES\_spreadsheet\_11262012 (1)

Dear Dawn,

Here is the information that was requested of the attendees for Monday's meeting with Tom Power. Please let us know if you have questions (especially because the spreadsheet when I opened it earlier had mysteriously made me four years younger).

Thanks,  
Megan

--

Megan Anne Stull  
Associate Corporate Counsel  
Google Inc.  
1101 New York Avenue N.W.  
Second Floor  
Washington, DC 20005  
Work: (b) (6)  
E-mail: (b) (6).

---

**From:** Edelman, R. David  
**Sent:** Monday, February 04, 2013 11:46 AM  
**To:** (b) (6)  
**Subject:** Re: my contact info

David,

No rush, we're booked for this week's meeting, so the soonest we'd ask for a call would be next.

Cheers,  
-rD

---

**From:** David Estrada [mailto:(b) (6)]  
**Sent:** Monday, February 04, 2013 11:44 AM  
**To:** Edelman, R. David  
**Subject:** RE: my contact info

Sounds good, David. We'll coordinate internally and set something up with you.

On Feb 4, 2013 7:45 AM, "Edelman, R. David" (b) (6) wrote:

David,

Thanks so much for taking the time on Friday – it was great meeting you, and appreciated your insights into how we can work towards this vision. I'll definitely want to keep my team in regular touch on this; please let me know the next time you or the team will be in D.C., I'd love to have you come in and speak with my group. We may even want to convene a conference call in the nearer future.

Cheers,

-rD

---

**From:** David Estrada [mailto:(b) (6)]  
**Sent:** Friday, February 01, 2013 1:41 PM  
**To:** Edelman, R. David  
**Subject:** my contact info

Hi David. I was just in the meeting with you about the Chauffeur program. Great meeting you. Feel free to reach out to me directly anytime.

mobile (b) (6)

David

--

---

David Estrada | Google[x] Legal Director (b) (6)

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---

**From:** Dorgelo, Cristin  
**Sent:** Wednesday, February 06, 2013 4:07 PM  
**To:** 'Jose Oyola-Sepulveda'  
**Subject:** RE: Solve for X Invoice

Thanks Jose! Received -- I'll get this processed.

Best,  
Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

-----Original Message-----

**From:** Jose Oyola-Sepulveda (b) (6)  
**Sent:** Wednesday, February 06, 2013 03:30 PM Eastern Standard Time  
**To:** Dorgelo, Cristin  
**Subject:** Solve for X Invoice



Hi Cristin,  
Thank you for participating in Solve for X, we hope you enjoy it!  
Per relevant gift rules we are providing you with the invoice below covering food+beverages+swag for this event. If you require an invoice for anything else please let me know.  
Regards,  
-Jose  
Jose Ramon Oyola-Sepulveda | Ethics and Compliance (b) (6) (b) (6)

---

## INVOICE

**BILLED TO:** Cristin Dorgelo  
White House

**InvoiceNumber** CAT182

**InvoiceDate** 2/6/13

**Terms** Net 30

**SEND PAYMENT TO:** Jose Ramon Oyola-Sepulveda  
1101 New York Avenue, NW  
Second Floor

Washington, D.C. 20005

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1	Food + Beverages	\$ 550.00	\$ 550.00
1	Patagonia Jacket	\$ 200.00	\$ 200.00

Note: Please make checks payable to Google Inc.

Total \$750

Questions concerning this invoice? Call 202 (b) (6)

**From:** Edelman, R. David  
**Sent:** Wednesday, February 06, 2013 10:35 AM  
**To:** George Ivanov  
**Subject:** RE: Catching Up

Sure, actually, now's good as I'm about to go in meetings for the next several hours. Give me a ring.

<><><><><><><><><>

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202 (b) (6) | bb: (202 (b) (6) (b) (6)

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Wednesday, February 06, 2013 10:34 AM  
**To:** Edelman, R. David  
**Subject:** Catching Up

Hi David,

Do you have some time for a quick call tomorrow or on Friday?

Sincerely,  
George

—

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)



---

**From:** Edelman, R. David  
**Sent:** Thursday, February 07, 2013 1:20 PM  
**To:** (b) (6) (b) (6)  
**Subject:** Re: White House Internet Policy Meeting, 2/8 1PM

Ross,

No worries -- would you like to send an alternate?

-rD

---

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Thursday, February 07, 2013 12:44 PM  
**To:** Edelman, R. David; Maho Takahata <(b) (6)>  
**Subject:** Re: White House Internet Policy Meeting, 2/8 1PM

hi there david -- hope 2013 is going well for you so far. would have loved to join this, but am at HQ in california and unable to participate!

ross

On Thu, Feb 7, 2013 at 9:08 AM, FN-WHO-NEC\_Policy (b) (6) wrote:

Dear Mr Ross Lajeunesse:

On behalf of R. David Edelman, White House Senior Advisor for Internet, Innovation, and Privacy, I would like to invite you to the first in a series of small-group conversations about structuring the USG -industry in Internet policymaking post-WCIT. The meeting will take place **tomorrow, Friday the 8th**, in the Eisenhower Executive Office Building (17th St and State Pl). The meeting will begin at **1PM in room 460**. Please bring government issued identification and note that it may take up to 15 minutes for security processing. To RSVP, please return the attached WAVES form by 5:30PM today.

We look forward to meeting with you.

Regards,

Alex Krivit

*Internet Policy Team*

*National Economic Council*

--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations  
Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

**From:** Edelman, R. David  
**Sent:** Thursday, February 07, 2013 8:40 PM  
**To:** George Ivanov  
**Subject:** RE: Catching Up

20<sup>th</sup> in the afternoon is doable...3:30pm?

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Wednesday, February 06, 2013 11:15 AM  
**To:** Edelman, R. David  
**Subject:** Re: Catching Up

How does 02/20 look on your calendar for M.E. Swing Coffee House (1702 G)?

Sincerely,  
George

On Wed, Feb 6, 2013 at 10:34 AM, Edelman, R. David (b) (6) wrote:

Sure, actually, now's good as I'm about to go in meetings for the next several hours. Give me a ring.

<><><><><><><><><>

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

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**Sent:** Wednesday, February 06, 2013 10:34 AM  
**To:** Edelman, R. David  
**Subject:** Catching Up

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Sincerely,

George

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

**From:** Edelman, R. David  
**Sent:** Friday, February 08, 2013 3:18 PM  
**To:** George Ivanov  
**Subject:** RE: Catching Up

Cya then

**From:** George Ivanov [mailto:[\(b\) \(6\)](#)]  
**Sent:** Friday, February 08, 2013 2:24 PM  
**To:** Edelman, R. David  
**Subject:** Re: Catching Up

Works for me. See you then.

On Thu, Feb 7, 2013 at 8:40 PM, Edelman, R. David (b) (6) wrote:

20<sup>th</sup> in the afternoon is doable...3:30pm?

**From:** George Ivanov [mailto:[\(b\) \(6\)](#)]  
**Sent:** Wednesday, February 06, 2013 11:15 AM  
**To:** Edelman, R. David  
**Subject:** Re: Catching Up

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George

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**R. David Edelman**

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

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**Sent:** Wednesday, February 06, 2013 10:34 AM  
**To:** Edelman, R. David  
**Subject:** Catching Up

Hi David,

Do you have some time for a quick call tomorrow or on Friday?

Sincerely,

George

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George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

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(b) (6) (b) (6)

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

---

**From:** Edelman, R. David  
**Sent:** Monday, February 11, 2013 2:30 PM  
**To:** (b) (6) (b) (6)  
**Subject:** Re: White House Internet Policy Meeting, 2/8 1PM

Ross,

No worries, it happens on this busy topic! Hope all's well back in MV. Would be happy to chat -- I'm on the West Coast (south though) Th-Fri, so it may be best to chat before logistics become hairy. Perhaps via phone tomorrow at 9am?

-rD

---

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Monday, February 11, 2013 01:49 PM  
**To:** Edelman, R. David; Maho Takahata <(b) (6)>  
**Subject:** Re: White House Internet Policy Meeting, 2/8 1PM

so sorry that this fell through the cracks, rD . was in calif with our ceo in an all-hands-on-deck sorta situation. hope we can participate and be helpful to you moving forward?

actually, i'm hoping to talk to you later this week if you have ten minutes? increasingly alarmed at state dept's approach to the post-WCIT challenges we're facing.

thanks  
ross

On Feb 7, 2013 1:20 PM, "Edelman, R. David" (b) (6) wrote:  
Ross,

No worries -- would you like to send an alternate?

-rD

---

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Thursday, February 07, 2013 12:44 PM  
**To:** Edelman, R. David; Maho Takahata <(b) (6)>  
**Subject:** Re: White House Internet Policy Meeting, 2/8 1PM

hi there david -- hope 2013 is going well for you so far. would have loved to join this, but am at HQ in california and unable to participate!

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We look forward to meeting with you.

Regards,

Alex Krivit

*Internet Policy Team*

*National Economic Council*

--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations  
Google Inc.

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On Feb 7, 2013 1:20 PM, "Edelman, R. David" (b) (6) wrote:  
Ross,

No worries -- would you like to send an alternate?

-rD

---

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Thursday, February 07, 2013 12:44 PM  
**To:** Edelman, R. David; Maho Takahata <(b) (6)>  
**Subject:** Re: White House Internet Policy Meeting, 2/8 1PM

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We look forward to meeting with you.

Regards,

Alex Krivit

*Internet Policy Team*

*National Economic Council*

--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations  
Google Inc.

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Global Head of Free Expression and International Relations  
Google Inc.

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**From:** Edelman, R. David  
**Sent:** Tuesday, February 12, 2013 3:28 PM  
**To:** George Ivanov  
**Subject:** Meeting

George,

Have to move our coffee on the 20<sup>th</sup> – perhaps to 2:30pm?

Also and perhaps on a related note, who's following CFAA for Google?

Cheers,  
-rD

<><><><><><><><><>

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy

ph: (202 (b) (6) | bb: (202 (b) (6)

---

**From:** Edelman, R. David  
**Sent:** Tuesday, February 12, 2013 3:31 PM  
**To:** George Ivanov  
**Subject:** Accepted: Invitation: Hold: Coffee With David Edelmann @ Wed Feb 20, 2013 2:30pm  
- 3:20pm (b) (6)

**From:** Edelman, R. David  
**Sent:** Tuesday, February 12, 2013 3:43 PM  
**To:** George Ivanov  
**Subject:** RE: Meeting

George,

Perfect, thanks. I may actually need to know before then on CFAA, if Google is to play a part in our discussions. If we could only accommodate one, would it be you? Pablo? Johanna?

Thanks,  
-rD

**From:** George Ivanov [mailto:[\(b\) \(6\)](#)]  
**Sent:** Tuesday, February 12, 2013 3:38 PM  
**To:** Edelman, R. David  
**Subject:** Re: Meeting

Hi David,

2:30 would be great - just sent a calendar invite. We have several people that are assessing different angles of the CFAA issue. Let's discuss at the coffee.

Sincerely,  
George

On Tue, Feb 12, 2013 at 3:28 PM, Edelman, R. David (b) (6) wrote:

George,

Have to move our coffee on the 20<sup>th</sup> – perhaps to 2:30pm?

Also and perhaps on a related note, who's following CFAA for Google?

Cheers,

-rD

**R. David Edelman**

Senior Advisor for Internet, Innovation, and Privacy

ph: (202) (b) (6) | bb: (202) (b) (6)

--

**George Ivanov**

Policy Analyst | Google Inc.

1101 New York Ave NW

Washington, DC 20005

(b) (6) (b) (6)



---

**From:** Jess Hemerly (b) (6)  
**Sent:** Monday, November 19, 2012 5:52 PM  
**To:** Sinai, Nick  
**Cc:** George Ivanov; Jürgen Schwärzler; Sreeram Balakrishnan; Johanna Shelton; Martin, Marina (b) (6) (b) (6) Kachaev, Dmitry (AF/AF-FO); Kalin, Ian; Majma, Raph (b) (6) Stebbins, Michael J.; Farmer, John; Forde, Brian; Bhandari, Aman; Williams, Claudia; Park, Todd; Rand, Doug; Van Dyck, Haley (b) (6) (b) (6) Panchadsaram, Ryan (HHS/ONCIT) (b) (6)  
**Subject:** Re: FW: Follow-Up to Tuesday's Meeting on Data Initiatives

Hi Nick,

Great to meet you. Thanks so much for arranging the meeting and sending this list. I know that there is already some interest in a few of the things discussed at the table, and we'll follow up as appropriate. We'll also work out the best way to connect you with the [schema.org](http://schema.org) folks on our end if that would be helpful.

Thanks,  
Jess

On Mon, Nov 19, 2012 at 11:54 AM, Sinai, Nick (b) (6) wrote:

Dear George, Jess, Jurgen, Sreeram, and Johanna,

A belated thank you for meeting with us the other week. It was great to hear about the types of public data that citizens are searching for via Google. I hope we were able to give sufficient context on the scope and breadth of the Open Data Initiatives.

As one simple follow up, as discussed, each data initiative -- health, energy, education, impact, finance, safety, global development -- will identify the top 5 US Government public data sets that they already make available. (I'm in process of collecting and will send you something by COB tomorrow.) Appreciate the offer to do some simple analytics on them, so we can see what people are searching for when they come across them, how satisfied they are, etc. The other ideas you suggest -- getting folks involved in Schema.org and continued dialogue on best practices -- also sound very productive.

Here are points of contact for each initiative (cc'ed):

- Energy -- Ian Kalin
- Education -- Marina Martin

- Safety – Brian Forde
- Global Development – Nat Manning and Dmitry Kachaev
- Health – Aman Bhandari and Bryan Sivak
- Finance – Nick Bramble
- Impact – Raph Majma

Looking forward to continuing the conversation.

Best,

Nick Sinai

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Thursday, November 15, 2012 10:32 AM  
**To:** Sinai, Nick  
**Cc:** Jess Hemerly; Jürgen Schwärzler; Sreeram Balakrishnan; Johanna Shelton; Graubard, Vivian

**Subject:** Follow-Up to Tuesday's Meeting on Data Initiatives

Hi Nick,

We wanted to thank you for meeting with us throughout the day on Tuesday and for hosting the session with the Presidential Innovation Fellows, because it was an excellent opportunity to learn more about the data-focused challenges that are being addressed throughout a number of federal agencies.

We are attaching two documents to this email. First, the presentation that Sree and Jurgen shared with senior statistical agency representatives (ICSP) at our meeting in August. Second, Jurgen's search term paper that discusses some of the common data-seeking queries that were entered on Google.com in 2010.

In terms of follow-up, we see a number of opportunities for continued engagement. One option would be to connect your team with experts who are working on [schema.org](http://schema.org), to provide you with more in-depth information about that collaborative effort. Also, we hope to continue the dialogue on technical best practices for formatting and hosting public data sets. Lastly, we look forward to learning more about the second phase of the Innovation Fellows program as it gets underway in the coming months.

Sincerely,

George and Jess

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) . (b) (6)

--

Jess Hemerly | Google Public Policy | (b) (6) . | (b) (6)

---

**From:** Edelman, R. David  
**Sent:** Tuesday, February 12, 2013 4:48 PM  
**To:** George Ivanov  
**Subject:** RE: Meeting

Thanks, George.

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 3:44 PM  
**To:** Edelman, R. David  
**Subject:** Re: Meeting

ok. Let me check. I'll get back to you on this asap.

On Tue, Feb 12, 2013 at 3:43 PM, Edelman, R. David (b) (6) wrote:

George,

Perfect, thanks. I may actually need to know before then on CFAA, if Google is to play a part in our discussions. If we could only accommodate one, would it be you? Pablo? Johanna?

Thanks,

-rD

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 3:38 PM  
**To:** Edelman, R. David  
**Subject:** Re: Meeting

Hi David,

2:30 would be great - just sent a calendar invite. We have several people that are assessing different angles of the CFAA issue. Let's discuss at the coffee.

George

George,

Have to move our coffee on the 20<sup>th</sup> – perhaps to 2:30pm?

Also and perhaps on a related note, who's following CFAA for Google?

Cheers,

-rD

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy

ph: (202) (b) (6) | bb: (202) (b) (6)

—

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6)

(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Tuesday, February 12, 2013 4:48 PM  
**To:** Johanna Shelton  
**Subject:** RE: CFAA

Johanna,

I'm aware of him, but he hasn't published on the issue. If Google were allotted one person, that would be your nomination? I had heard that Pablo was engaged with the Hill on it.

-rD

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 3:54 PM  
**To:** Edelman, R. David  
**Subject:** CFAA

re participants in any discussions, you should start with Markham Erickson from the Internet Association - you know him right?

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Tuesday, February 12, 2013 5:05 PM  
**To:** Ross LaJeunesse  
**Subject:** RE: For Edelman

Ross,

Got it, thanks. I made sure the appropriate folks were informed on all sides.

Yes, I couldn't agree more on the latter, and the sentiment in the letter. I flagged for State seniors.

Cheers,  
-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 11:02 AM  
**To:** Edelman, R. David  
**Subject:** Fwd: For Edelman

hey rD

thanks for the time this morning.

confirming najarian.... Zzzzzzz

as mentioned, heroes of WTPF as far as we're concerned: bill smith and NTIA / hemmerlein in particular

you know this, but we're really concerned that we spend 2013 battling the ITU on its home turf at the expense of focusing on access in the developing world, and on fixing the multi-stakeholder groups, IGF first among them. att'd is a letter on that; you were already cc'd but i'm sure that happens a lot and wanted to be sure you saw it.

later  
ross

--  
**Ross LaJeunesse**  
Global Head of Free Expression and International Relations  
Google Inc.

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---

**From:** Dorgelo, Cristin  
**Sent:** Tuesday, February 12, 2013 7:40 PM  
**To:** Will Patrick; Megan Smith; Astro Teller (b) (6) (b) (6)  
**Subject:** RE: SfX Class of 2013: Thanks for everything

Will, Megan, Astro, Karishma, Obi:

Sincere thanks again for including me in last week's inspiring Solve for X event. Great gathering of minds and some fantastic talks (in particular, I thought Saul, Shawn, Andras, Bill, Wael, Geena, and Steve knocked their talks out of the park). I've shared the videos and the new Solve for X site with many of my White House OSTP colleagues already.

I look forward to collaborating again with your fantastic team as we move closer to a White House Grand Challenges event – I'll let you know that event date as soon as we know it here.

All best,  
Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

**From:** Will Patrick [mailto: (b) (6)]  
**Sent:** Monday, February 11, 2013 6:39 PM  
**To:** (b) (6) Andras Forgacs; Shawn Douglas; Prashant K. Jain; Peter Diamandis; Steve Jurvetson; (b) (6) Ehsan Afshari; Austen Heinz; Mir Imran; Catteruccia, Dr Flaminia; Anna Patterson; Pa dmasree Warrior (pwarrior); Chase, Charles; Vinod Khosla; Catherine Mohr; Jeff Surma; Geena Davis; O'Sullivan, Meghan; Nicholas Negroponte; Molly Morse; Marc Andreessen (b) (6) (b) (6) Dorgelo, Cristin; (b) (6) Karishma Shah; Cady Coleman; Natalie Jeremijenko (b) (6) Wael Ghonim; Bill Gross (b) (6) Black, Keith, L., M.D.; Regina Dugan; Cathy Zoi; Yoky matsuoka; Hermann Hauser; Rob Nail; Sergey Brin (b) (6)  
**Cc:** Megan Smith; Obi Felten; Astro Teller; Kathy Cooper; Will Patrick; Rodney Brooks  
**Subject:** SfX Class of 2013: Thanks for everything

SfX Class of 2013:

What an amazing three days. Thank you so much for joining us and being a part of our community. I feel very lucky to spend a portion of my day job helping to put this group together. As a young person, I feel awed by your intelligence & passion and inspired to do ever bigger and crazier things. Thank you for that!

A few things I wanted to share with you.

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Talk soon!

Cheers,

Will (on behalf of Astro, Megan and the rest of the SfX crew)

---

**From:** Edelman, R. David  
**Sent:** Tuesday, February 12, 2013 5:43 PM  
**To:** Ross LaJeunesse  
**Subject:** RE: For Edelman

My pleasure.

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 5:18 PM  
**To:** Edelman, R. David  
**Subject:** Re: For Edelman

thanks. you're the man

On Tue, Feb 12, 2013 at 5:04 PM, Edelman, R. David (b) (6) wrote:

Ross,

Got it, thanks. I made sure the appropriate folks were informed on all sides.

Yes, I couldn't agree more on the latter, and the sentiment in the letter. I flagged for State seniors.

Cheers,

-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 11:02 AM  
**To:** Edelman, R. David  
**Subject:** Fwd: For Edelman

hey rD

thanks for the time this morning.

confirming najarian.... ZZZZZZZ

as mentioned, heroes of WTPF as far as we're concerned: bill smith and NTIA / hemmerlein in particular

you know this, but we're really concerned that we spend 2013 battling the ITU on its home turf at the expense of focusing on access in the developing world, and on fixing the multi-stakeholder groups, IGF first among them. att'd is a letter on that; you were already cc'd but i'm sure that happens a lot and wanted to be sure you saw it.

later

ross

--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations

Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

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---

**From:** Kalil, Thomas A.  
**Sent:** Wednesday, February 13, 2013 7:48 AM  
**To:** (b) (6)  
**Subject:** Re: undergrad statistics resource for non-majors

See you then.

---

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 08:20 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non -majors

I plan on seeing you at 10 AM at Caribou Coffee – 17<sup>th</sup> and Penn.

My cell phone i (b) (6)

On Mon, Jan 21, 2013 at 5:25 PM, Hal Varian (b) (6) wrote:  
That's the same metro as Google, so should be easy. My cell i (b) (6)

On Mon, Jan 21, 2013 at 2:20 PM, Kalil, Thomas A. (b) (6) wrote:

Sounds good. See you at Caribou – 17<sup>th</sup> and Penn. Near Farragut West – 17<sup>th</sup> Street exit.

My cell i (b) (6)

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Monday, January 21, 2013 5:18 PM  
**To:** Kalil, Thomas A.

**Subject:** Re: undergrad statistics resource for non -majors

7 AM body time? I should be able to communicate after a few cups of coffee.

What metro stop?

On Mon, Jan 21, 2013 at 11:49 AM, Kalil, Thomas A. (b) (6) wrote:

How about 10 am on the 13<sup>th</sup> – is that slightly more civilized?

**From:** Hal Varian [mailto:(b) (6)]

**Sent:** Sunday, January 20, 2013 1:39 AM

**To:** Kalil, Thomas A.

**Subject:** Re: undergrad statistics resource for non -majors

Sure, that will work.

On Sat, Jan 19, 2013 at 5:42 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Hal:

Feb 12<sup>th</sup> is SOTU, so we are usually busy then.

Coffee on Feb 13<sup>th</sup>?

Best,

Tom

**From:** Hal Varian [mailto:(b) (6)]

**Sent:** Saturday, January 19, 2013 8:38 PM

**To:** Kalil, Thomas A.

**Subject:** undergrad statistics resource for non -majors

<http://www.dartmouth.edu/~chance/index.html>

Hey, Tom, what are your plans. I'm going to be at Google DC, Feb 12 -13. Want to come to a group dinner there on Feb 12?



---

**From:** Dorgelo, Cristin  
**Sent:** Wednesday, February 13, 2013 12:28 PM  
**To:** Astro Teller; Will Patrick; Megan Smith (b) (6) (b) (6)  
**Subject:** moonshot thinking in SOTU

Google X moonshot team:

I'm sure you caught this in last night's SOTU, but in case it comes in handy as you spread the word about moonshots & making things 10x better, this paragraph from the President's address last night speaks to his commitment to pursuing audacious, game-changing goals (aka Grand Challenges & Moonshots) and to investing in research and development. One of the examples, the [Brain Activity Map](#), is a Grand Challenge we've been developing with NIH/NINDS, neuroscientists, nanotechnologists, and private foundations.

"Now, if we want to make the best products, we also have to invest in the best ideas. Every dollar we invested to map the human genome returned \$140 to our economy -- every dollar. Today, our scientists are mapping the human brain to unlock the answers to Alzheimer's. They're developing drugs to regenerate damaged organs; devising new material to make batteries 10 times more powerful. Now is not the time to gut these job-creating investments in science and innovation. Now is the time to reach a level of research and development not seen since the height of the Space Race. We need to make those investments."

All best,  
Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

**From:** Astro Teller [mailto: (b) (6)]  
**Sent:** Tuesday, February 12, 2013 11:44 PM  
**To:** Dorgelo, Cristin  
**Cc:** Will Patrick; Megan Smith (b) (6) (b) (6)  
**Subject:** Re: SFX Class of 2013: Thanks for everything

Thanks for being part of the event, Cristin! It was great to have you there with us!

:)

Astro.

On Tue, Feb 12, 2013 at 4:40 PM, Dorgelo, Cristin (b) (6) wrote:

Will, Megan, Astro, Karishma, Obi:

Sincere thanks again for including me in last week's inspiring Solve for X event. Great gathering of minds and some fantastic talks (in particular, I thought Saul, Shawn, Andras, Bill, Wael, Geena, and Steve knocked their talks out of the park). I've shared the videos and the new Solve for X site with many of my White House OSTP colleagues already.

I look forward to collaborating again with your fantastic team as we move closer to a White House Grand Challenges event – I'll let you know that event date as soon as we know it here.

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**Sent:** Monday, February 11, 2013 6:39 PM

**To:** (b) (6) Andras Forgacs; Shawn Douglas; Prashant K. Jain; Peter Diamandis; Steve Jurvetson; (b) (6) Ehsan Afshari; Austen Heinz; Mir Imran; Catteruccia, Dr Flaminia; Anna Patterson; Padmasree Warrior (pwarrior); Chase, Charles; Vinod Khosla; Catherine Mohr; Jeff Surma; Geena Davis; O'Sullivan, Meghan; Nicholas Negroponte; Molly Morse; Marc Andreessen; (b) (6) (b) (6) Dorgelo, Cristin; (b) (6) Karishma Shah; Cady Coleman; Natalie Jeremijenko; (b) (6) Wael Ghonim; Bill Gross (b) (6) Black, Keith, L., M.D.; Regina Dugan; Cathy Zoi; Yoky matsuoaka; Hermann Hauser; Rob Nail; Sergey Brin; (b) (6)  
**Cc:** Megan Smith; Obi Felten; Astro Teller; Kathy Cooper; Will Patrick; Rodney Brooks

**Subject:** SfX Class of 2013: Thanks for everything

SfX Class of 2013:

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participants and continue the dialogue. Of course, you're more than welcome to reach out to me and anyone else on the Google[x] team (see cc'd list) for any reason.

Talk soon!

Cheers,

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- Astro

---

**From:** Dorgelo, Cristin  
**Sent:** Wednesday, February 13, 2013 7:38 PM  
**To:** Obi Felten  
**Subject:** RE: moonshot thinking in SOTU

Obi:

Awesome – agreed, really enjoyed your company at SfX.

Thanks for the connect to Sonal, I will follow up with her!

I'll know more about my March schedule over the next couple of weeks...while I won't be at SXSW this year, I may overlap with you in NYC. If not, we'll set up a time for a call.

Till soon,  
Cristin

**From:** Obi Felten [mailto: (b) (6)]  
**Sent:** Wednesday, February 13, 2013 1:05 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: moonshot thinking in SOTU

Cristin

I love it! Reference to 10x, reference to space programme...

So glad we met at SfX, you were definitely one of my favourite people there. I would love to connect soon, either on the phone or when we are next in the same area. I am going to SXSW 12-14 Mar (exact dates still tbc), and will be in NYC the week of 25th of March. My friend Nilofer Merchant is organising a women event, see [here](#). Let me know if you'd be interested in coming, Nilofer is a serious networker and promised to bring some interesting/nice people to it. I'll work from NYC that week.

Also, separately: We've been talking to Sonal Chokshi, the editor of Wired Opinion, about a moon shot op-ed series following the first one by [Astro](#) (which she edited). We will connect her with some of the SfX speakers, but it occurred to me that you would also be brilliantly positioned to write an op-ed in the series. I'll connect you with her, she's a really wonderful woman, so even if you two decide the op-ed isn't right at least you will have met!

Obi

On 13 February 2013 09:28, Dorgelo, Cristin (b) (6) wrote:

Google X moonshot team:

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Will (on behalf of Astro, Megan and the rest of the SfX crew)

--

- Astro

---

**From:** Dorgelo, Cristin  
**Sent:** Wednesday, February 13, 2013 7:57 PM  
**To:** Obi Felten; Chokshi, Sonal  
**Subject:** RE: Intro Cristin/Sonal  
**Attachments:** Grand\_Challenges\_20130128.pdf

Thanks Obi for the connection!

Sonal – pleasure to meet you via email! Would you like to set up a time to talk?

You can learn more about the White House OSTP Grand Challenges effort [here](#) and attached: our goal is to inspire more individuals and organizations to pursue ambitious yet achievable goals that capture the public's imagination and that harness breakthroughs in science and technology to address problems of national or global impact (and secondarily, we believe that an increased pursuit of Grand Challenges will have a positive impact on the public discourse about the role of innovation, science, and technology in society and on the interest of youth in pursuing STEM fields).

A relevant excerpt from the President's remarks in last night's State of the Union address:

“Now, if we want to make the best products, we also have to invest in the best ideas. Every dollar we invested to map the human genome returned \$140 to our economy -- every dollar. Today, our scientists are mapping the human brain to unlock the answers to Alzheimer's. They're developing drugs to regenerate damaged organs; devising new material to make batteries 10 times more powerful. Now is not the time to gut these job-creating investments in science and innovation. Now is the time to reach a level of research and development not seen since the height of the Space Race. We need to make those investments.”

I look forward to connecting! I could speak at 1:30 EST this Friday or 4:30 EST next Tuesday...does either time work for you?

Best,  
Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

**From:** Obi Felten [mailto:(b) (6)]  
**Sent:** Wednesday, February 13, 2013 1:09 PM  
**To:** Chokshi, Sonal; Dorgelo, Cristin  
**Subject:** Intro Cristin/Sonal

Cristin, Sonal edits Wired Opinion and published Astro's moonshot op-ed this week - she's planning to turn this into a series featuring thoughts on moonshots as well as individual moonshots. I'm super excited about this, I think it will be a great series.

Sonal, meet Cristin who runs Grand Challenges at the White House, and was one of my favourite people at the SfX event. She has some interesting views on government's role in facilitating moonshots, and I thought this might make another good op-ed for your moonshot series.

Even if you ladies decide that an op-ed isn't the right thing to do, I wanted you to meet since you are both great and I think you'd get on!

Obi



# Grand Challenges

**Cristin Dorgelo**

Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

“By defining our goal more clearly,  
by making it seem more manageable and  
less remote, we can help all peoples to see  
it, to draw hope from it, and to move  
irresistibly towards it.”

— President John F. Kennedy

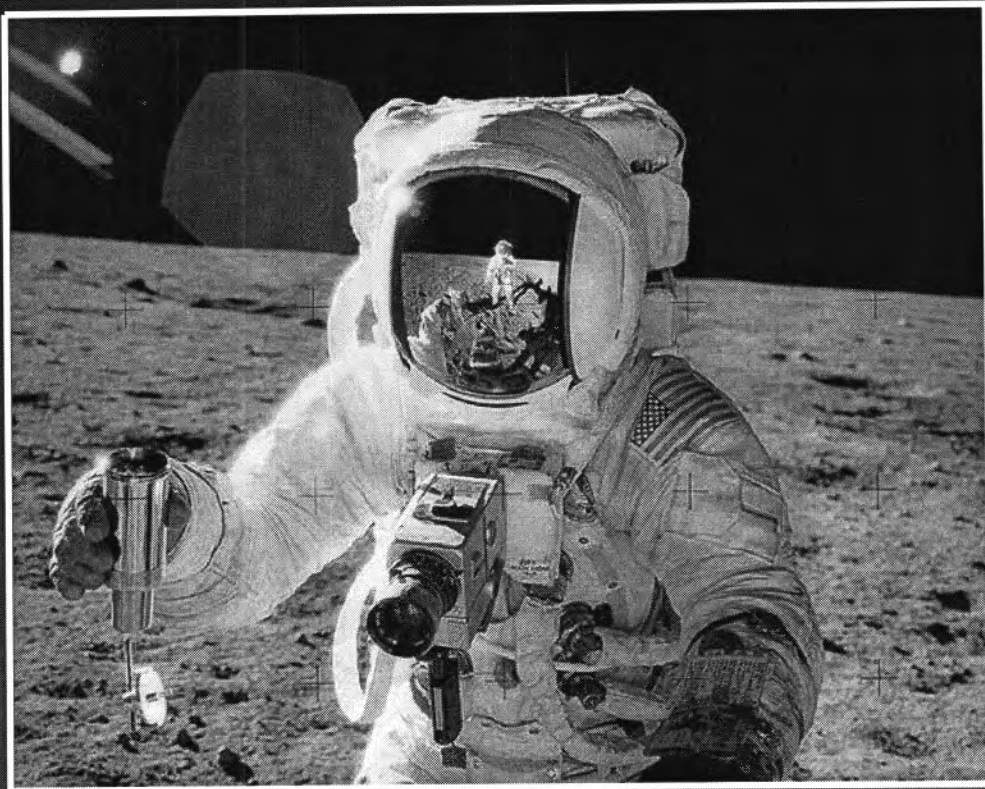
June 10, 1963

Commencement Address,  
American University

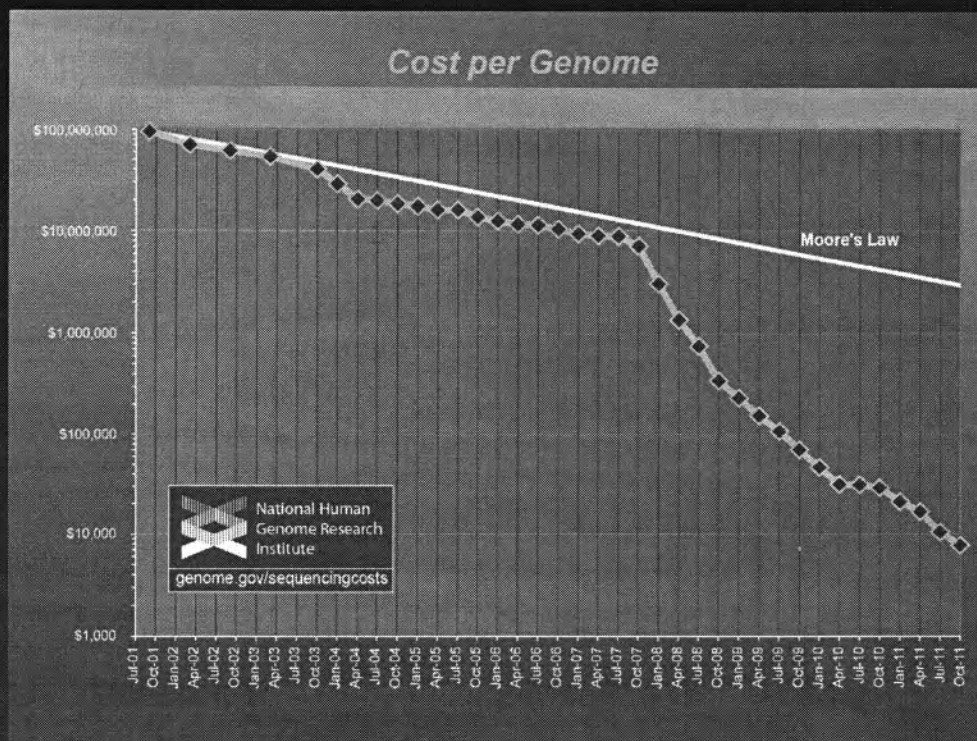




# Grand Challenges



# Sequencing the Human Genome



# Grand Challenges

- Role in President Obama's innovation strategy
- Attributes and benefits
- Examples
- Involving more individuals and institutions





# Strategy for American Innovation

“The Federal government should ... use high-risk, high-reward policy tools such as prizes and challenges to solve tough problems.”

*-President Barack Obama  
August 5, 2009*



# President Obama's Innovation Strategy

## Innovation for Sustainable Growth and Quality Jobs

### **Catalyze Breakthroughs for National Priorities**

- Unleash a clean energy revolution
- Support advanced vehicle technology
- Drive breakthroughs in health IT
- Address the "grand challenges" of the 21<sup>st</sup> century

### **Promote Competitive Markets that Spur Productive Entrepreneurship**

- Promote American exports
- Support open capital markets that allocate resources to the most promising ideas
- Encourage high-growth and innovation-based entrepreneurship
- Improve public sector innovation and support community innovation

### **Invest in the Building Blocks of American Innovation**

- Restore American leadership in fundamental research
- Educate the next generation with 21<sup>st</sup> century knowledge and skills while creating a world-class workforce
- Build a leading physical infrastructure
- Develop an advanced information technology ecosystem



# Current Public Sector Grand Challenges

## Department of Energy: Clean Energy Grand Challenges

- **SunShot:** To make solar energy cost competitive with other forms of energy by 2020
- **EV Everywhere:** To make electric vehicles as affordable and convenient to own as gas-powered vehicles by 2020

## USAID: Grand Challenges for Development

- **Saving Lives at Birth:** To increase access to primary health care for pregnant women and newborns by at least 50%
- **All Children** [REDACTED] countries  
leave primary school with basic reading skills
- **Powering Agriculture:** expand farmers' access to clean energy solutions





## Private Sector Grand Challenges

- **Google** – self-driving car (outgrowth of DARPA Challenge)
- **IBM** – AI that beats Gary Kasparov at chess, Ken Jennings at Jeopardy – Watson may create huge commercial markets
- **Qualcomm** – Tricorder X Prize
- **Elon Musk/SpaceX** – humanity should become a multi-planetary species”
- **Pronutria** – 10x or more increase in productivity for nutrition (output/acre)



## Attributes of Grand Challenges

1. Significant impact in areas of national and global priority
2. Ambitious yet achievable
3. Compelling and intrinsically motivating
4. “Goldilocks” level of specificity and focus
5. Able to harness innovation and advances in science and technology



## Benefits of Grand Challenges

1. Help solve important economic and societal problems
2. Serve as a “North Star” for high-impact, multi-disciplinary collaborations and public-private partnerships
3. Create the foundation for the industries and jobs of the future
4. Capture public imagination and increase support for public policies that foster science, technology and innovation
5. Inspire the next generation of scientists, engineers, and entrepreneurs





## What if...?

1. A digital tutor allows recent high school graduates to gain the skills and an industry-recognized certificate they need to increase their income by 50 -100 percent in 4 months
2. Regenerative medicine routinely replaces damaged tissues or organs – ending the agonizing wait for an organ transplant
3. We can increase the efficiency with which we produce proteins and other essential nutrients by a factor of 100 or more



## What if...?

4. We put the tools to design and make just about anything (e.g. 3-D printers, TechShops, Maker Spaces, FabLabs) at the fingertips of every child
5. American soldiers have dozens of technology-provided “superpowers”
6. Self-driving cars reduce traffic fatalities by 80 percent, while freeing up our commute time for work, leisure, or a nap





# Brain Activity Map



## All Hands on Deck

1. Foundations and donors: organize philanthropic giving around Grand Challenges
2. Universities: organize research initiatives to meet ambitious Grand Challenge goals
3. Companies:
  - Identify a Grand Challenge they can contribute to
  - Sponsor major incentive prizes designed to address a Grand Challenge
  - Be early customers, provide capital, or provide mentoring to startups pursuing a Grand Challenge
4. Angel, venture capitalists, investors, startups, and others pursuing Grand Challenges
5. Media companies and America's storytellers can help make engineers and entrepreneurs pursuing Grand Challenges the rock stars of the 21<sup>st</sup> century



Thank You

[challenges@ostp.gov](mailto:challenges@ostp.gov)

(b) (6)



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**From:** Kalil, Thomas A.  
**Sent:** Tuesday, February 19, 2013 12:36 PM  
**To:** Jacqueline Fuller  
**Cc:** Greenblatt, Jonathan; Eric Schwarz  
**Subject:** STEM Corps

Dear Jacqueline:

Jonathan Greenblatt and I have been working together to develop and launch a "STEM Corps" initiative. Mike Strautmanis (a senior White House aide in our Office of Public Engagement) has been in touch with David Drummond about the possibility of Google playing a leadership role in this.

Eric Schwarz of Citizen Schools and I will both be in the Bay Area on Friday afternoon, and would love to see if there is a time we could meet to discuss.

All the best,

Tom

**From:** Jacqueline Fuller [mailto:(b) (6)]  
**Sent:** Friday, June 01, 2012 8:13 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: Civic innovation

Tom,

Thanks so much for taking time to come by and think big thoughts on Civic Innovation with the Googlers. I'll share this with the rest of the team. We will be in touch and I hope we can find something like a Grand Challenge to partner on (btw spoke with Regina today who wants to do a Google/Moto GC after your conversation).

On Fri, Jun 1, 2012 at 3:49 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Jacqueline:

Great to spend some time with you and the team! Let me know if there any ideas we discussed that we'd like to follow up on.

You might be interested in this collaboration we did with ASU and a presentation I gave on expanding informed participation.

<http://www.whitehouse.gov/blog/2012/06/01/startup-america-policy-challenge-tapping-citizen-solvers-drive-innovation>

<http://www.whitehouse.gov/sites/default/files/microsites/ostp/kalil-participation.pdf>

All the best,

Tom

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Jacquelline Fuller	Director, Charitable Giving and Advocacy	(b) (6)		650-450-
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0329
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If you received this communication by mistake, please don't forward it to anyone else (it may contain confidential or privileged information), please erase all copies of it, including all attachments, and please let the sender know it went to the wrong person. Thanks.

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**From:** Kalil, Thomas A.  
**Sent:** Wednesday, February 13, 2013 9:54 AM  
**To:** (b) (6)  
**Subject:** Re: undergrad statistics resource for non-majors

Will be a few minutes late.

---

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 08:20 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non -majors

I plan on seeing you at 10 AM at Caribou Coffee – 17<sup>th</sup> and Penn.

My cell phone i (b) (6)

On Mon, Jan 21, 2013 at 5:25 PM, Hal Varian (b) (6) wrote:  
That's the same metro as Google, so should be easy. My cell i (b) (6)

On Mon, Jan 21, 2013 at 2:20 PM, Kalil, Thomas A. (b) (6) wrote:

Sounds good. See you at Caribou – 17<sup>th</sup> and Penn. Near Farragut West – 17<sup>th</sup> Street exit.

My cell i (b) (6)

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Monday, January 21, 2013 5:18 PM  
**To:** Kalil, Thomas A.

**Subject:** Re: undergrad statistics resource for non -majors

7 AM body time? I should be able to communicate after a few cups of coffee.

What metro stop?



On Mon, Jan 21, 2013 at 11:49 AM, Kalil, Thomas A. (b) (6) wrote:

How about 10 am on the 13<sup>th</sup> – is that slightly more civilized?

**From:** Hal Varian [mailto:(b) (6)]

**Sent:** Sunday, January 20, 2013 1:39 AM

**To:** Kalil, Thomas A.

**Subject:** Re: undergrad statistics resource for non -majors

Sure, that will work.

On Sat, Jan 19, 2013 at 5:42 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Hal:

Feb 12<sup>th</sup> is SOTU, so we are usually busy then.

Coffee on Feb 13<sup>th</sup>?

Best,

Tom

**From:** Hal Varian [mailto:(b) (6)]

**Sent:** Saturday, January 19, 2013 8:38 PM

**To:** Kalil, Thomas A.

**Subject:** undergrad statistics resource for non -majors

<http://www.dartmouth.edu/~chance/index.html>

Hey, Tom, what are your plans. I'm going to be at Google DC, Feb 12-13. Want to come to a group dinner there on Feb 12?



---

**From:** Kalil, Thomas A.  
**Sent:** Tuesday, February 19, 2013 3:05 PM  
**To:** Jacquelline Fuller; Abigail Sassoon  
**Cc:** Eric Schwarz; Greenblatt, Jonathan  
**Subject:** RE: STEM Corps

OK – I am happy to do a telecom or Google Hangout on Friday, but will probably stay in Lafayette if you are in NY.

Best,

Tom

**From:** Jacquelline Fuller [mailto:(b) (6)]  
**Sent:** Tuesday, February 19, 2013 3:00 PM  
**To:** Kalil, Thomas A.; Abigail Sassoon  
**Cc:** Eric Schwarz; Greenblatt, Jonathan  
**Subject:** Re: STEM Corps

David sent a note and put me in touch with Mike. Sounds very interesting and I look forward to hearing more. I'm in NY Thursday and Friday so a video MTG may be our best option.

Abby can help us find a time.

On Feb 19, 2013 9:36 AM, "Kalil, Thomas A." (b) (6) wrote:

Dear Jacqueline:

Jonathan Greenblatt and I have been working together to develop and launch a "STEM Corps" initiative. Mike Strautmanis (a senior White House aide in our Office of Public Engagement) has been in touch with David Drummond about the possibility of Google playing a leadership role in this.

Eric Schwarz of Citizen Schools and I will both be in the Bay Area on Friday afternoon, and would love to see if there is a time we could meet to discuss.

All the best,

Tom

**From:** Jacqueline Fuller [mailto:(b) (6)]  
**Sent:** Friday, June 01, 2012 8:13 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: Civic innovation

Tom,

Thanks so much for taking time to come by and think big thoughts on Civic Innovation with the Googlers. I'll share this with the rest of the team. We will be in touch and I hope we can find something like a Grand Challenge to partner on (btw spoke with Regina today who wants to do a Google/Moto GC after your conversation).

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Dear Jacqueline:

Great to spend some time with you and the team! Let me know if there any ideas we discussed that we'd like to follow up on.

You might be interested in this collaboration we did with ASU and a presentation I gave on expanding informed participation.

<http://www.whitehouse.gov/blog/2012/06/01/startup-america-policy-challenge-tapping-citizen-solvers-drive-innovation>

<http://www.whitehouse.gov/sites/default/files/microsites/ostp/kalil-participation.pdf>

All the best,

Tom

--

Jacqueline Fuller	Director, Charitable Giving and Advocacy	(b) (6)	650-450-0329
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If you received this communication by mistake, please don't forward it to anyone else (it may contain

confidential or privileged information), please erase all copies of it, including all attachments, and please let the sender know it went to the wrong person. Thanks.

**From:** Mielke, Dawn M.  
**Sent:** Wednesday, February 13, 2013 4:40 PM  
**To:** Kellerman, Christina (b) (6) (b) (6)  
(b) (6) (b) (6) (b) (6)  
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(b) (6) (b) (6) (b) (6)  
(b) (6) Kumar, Vijay (b) (6)  
(b) (6) Helms, Eric  
**Cc:** Bedrossian, Leona; Waters, Joyce A.; Lantion, Gail  
**Subject:** RE: CPS teleconference (Reschedule Request)

	Tom Kalil
Tuesday, April 2 <sup>nd</sup> 11:00AM – 1:00PM EST	NO
Thursday, April 25 <sup>th</sup> 1:00PM – 3:00PM EST	NO
Monday, April 29 <sup>th</sup> 2:00PM – 4:00PM EST	YES
Tuesday, April 30 <sup>th</sup> 11:00PM – 1:00PM EST	YES

**Thank you for revisiting this request for me. Your help is greatly appreciated!**

Participants are listed below:

**George Arnold**, Physical Systems Program Office, National Institute of Standards and Technology  
**Tom Kalil**, Deputy Director for Policy, Office of Science and Technology Policy  
**Pat Gallagher**, Director, National Institute of Standards and Technology  
**Bill Ruh**, Vice President and Corporate Officer, GE Global Software Headquarters  
**John Tracy**, Chief Technology Officer & Senior Vice President, Boeing  
**Christophe Mangin**, Director, GM Global R&D Operations  
**Vint Cerf**, Chief Internet Evangelist, Google  
**John E. Kelly III**, Senior Vice President and Director of Research, IBM  
**Rob Soderbery**, Senior Vice President and General Manager for Enterprise Networking Group, Cisco Systems  
**Jeanette Wing**, Vice President, Head of Microsoft Research International  
**Don Dixon**, Senior Managing Director, Trident Capital  
**Mark Gorenberg**, Managing Director, Hummer Winblad Venture Partners  
**S. Shankar Sastry**, Dean of Engineering, University of California, Berkeley  
**Janos Sztipanovits**, E. Bronson Ingram Chair in Engineering, Joe B. Wyatt Distinguished University Professor, Director of the Institute for Software Integrated Systems, Vanderbilt University  
**S. Shyam Sunder**, Director, Engineering Laboratory, National Institute of Standards and Technology  
**Vijay Kumar**, Assistant Director, Robotics and Cyber-Physical Systems, Office of Science and Technology Policy  
**Joe Salvo**, Manager, Business Integration Technologies Lab, GE Global Research  
**Paul Didier**, Industry Solutions Architect, Cisco Systems  
**Jim St. Pierre**, Deputy Director, Information Technology Laboratory, National Institute of Standards and Technology  
**Ajit Jillavenkatesa**, Senior Policy Advisor, Program Coordination Office, National Institute of Standards and Technology

*Christina Kellerman*  
*Administrative Office Assistant*  
*Engineering Laboratory*

(b) (6)  
(301 (b) (6) f)  
(b) (6)

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**From:** Vint Cerf (b) (6)  
**Sent:** Tuesday, November 20, 2012 1:32 AM  
**To:** Kalil, Thomas A.  
**Cc:** David Nordfors; Michael Nelson  
**Subject:** Innovation and Jobs - Summit Invitation  
**Attachments:** I4JSummitProspect (32).pdf

Tom,

this is something I think you would enjoy and could contribute substantially to. Attached is a summary of what is planned. David Nordfors is the sparkplug (copied). The event is on the west coast at SRI International in mid -March 2013. It is deliberately being kept of modest size.

I hope this will pique your interest,

vint

The IIIJ i4j Summit on Innovation and Job Creation takes place on March 18 -19 2013 at SRI International at their HQ in Menlo Park.

The website: <http://iiij.org/activities/i4j>

Information technology is the new industrial revolution. As the world continues to move ever faster into the innovation economy, economies are struggling with adapting labor markets. Jobs are evolving faster than educational and employment systems can adapt. The result is rising unemployment while employers experience a shortage of appropriately skilled employees.

Economies now need innovation FOR jobs, not Innovation OR jobs.. The reforms require collaborating across disciplines and stakeholder groups, connecting innovation, labor and education.. It means a different paradigm for decision making.

#### **About the summit**

We will be bringing together maximum a hundred hand -picked international leaders from politics, academia and business, bridging innovation, jobs and education.

Vint Cerf, VP of Google is our seed sponsor and chairman of the executive advisory board.

Also on the Exec Advisory board: Curtis Carlson, President of SRI International and Jacob Ziv, president emeritus of the Israel Academy for Sciences and Humanities.

Among our advisors: Robert Litan, Head of Research Bloomberg Gov, and John Voeller, advisor to and former CTO of Black and Veatch.

World Economic Forum type format: Thought leaders will prepare white papers with analysis and recommendations for how to merge innovation and jobs policies. Each paper will be discussed by leaders in small, interactive groups. The output of the discussions will be published in a book, which will serve as input in continued activities, we are for example planning an i4j meeting in Lund.

Among the confirmed participants: Vint Cerf, VP Google; Curt Carlson, President SRI International; Jim Clifton, CEO/Chairman of Gallup; Aart de Geus, CEO of the Bertelsmann Stiftung foundation, deputy Secretary -General of the OECD, former Minister of Social Affairs and Employment of the Netherlands; Geoff Moore, author of Crossing the Chasm; Steve Jurvetson, Venture Capitalist, original investor in Hotmail, investor in Tesla and other companies; Henry Kressel - Venture Capitalist and fmr RCA veteran who brought the solid state laser to the market; Allan Holmes and Mike Nelson (who wrote Gore's legislation that opened the Internet for commercial traffic) from Bloomberg Government; Dane

Stangler, head of research of the Kauffman Foundation; Angeles Bermudez-Svankvist, President of the World Association of Public Employment Services, and more leaders.

Toomas Ilves, President of Estonia has been invited. The initial response is positive, calendars are being checked.

Chuck Vest, President of the US National Academy of Engineering Sciences has promised their participation, too.

The organizing committee consists of Sven Littorin, the former Swedish Minister for Employment and president of the European Council of Ministers; Anders Flodström, vice chair of the European Institute of Innovation and Technology and Swedish Chancellor of Higher Education; and myself.

Our goal: a global network of leaders that develop and share ideas and contacts for innovation for jobs policies. We already have a follow-up conference on the way for Germany, in a joint partnership with the Bertelsmann Stiftung, to be held in Munich in the fall of 2013.

The sponsors and partners are so far Google, SRI International, Kauffman Foundation, Bertelsmann Stiftung, Bloomberg Government, OECD, the Israel Academy of Sciences and Humanities. Bloomberg, Xconomy and TechCrunch are media partners, providing moderators. ThomsonReuters are looking for a moderator to join. Manpower Group has pledged to be a sponsor, corporate senior management will participate.

Tim Brown, CEO of IDEO has expressed his intention of joining the summit. Per Eriksson, Vice Chancellor of Lund University - the largest university in the Nordic Region - is planning to participate. The US National Academy of Engineering Sciences have promised to join.

We have others on the way.



## PROSPECT

DOCUMENT IN PROGRESS - CONFIDENTIAL

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# i4j

## INTERNATIONAL SUMMIT ON INNOVATION FOR JOBS

18-19 MAR 2013

SRI INTERNATIONAL, MENLO PARK, CA

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Google

Hosting Sponsor

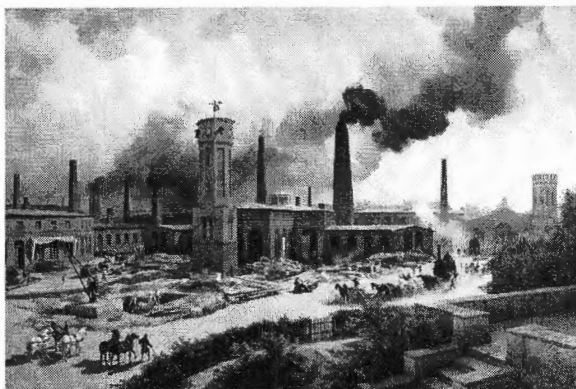
**SRI International**  
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## i4j MISSION

Information technology is the new industrial revolution. As the world continues to move ever faster into the innovation economy, economies are struggling with adapting labor markets. Jobs are evolving faster than educational and employment systems can adapt. The result is rising unemployment while employers experience a shortage of appropriately skilled employees.

Economies now need innovation **for** jobs, not Innovation **or** jobs.. The reforms needed to foster both innovation and jobs are complex. They require connecting specialized knowledge with broader perspectives, collaborating across disciplines and stakeholder groups, connecting innovation, labor and education.. It means a different paradigm for decision making.

i4j is an international summit on innovation and jobs, bringing together selected leaders from government, academia, business and the media. The aim is to develop a global network of leaders that develop and share new solutions.

## ABOUT THE SUMMIT

Unlike many professional meetings where leaders go to meet people like themselves, i4j brings together leaders who are different, with one thing in common - a potential key role in the innovation and jobs issue.

We have chosen a compact, interactive format, hosting only one hundred selected leaders, providing more speaking/moderating/rapporteur slots than there are participants. The leaders will be discussing a wide variety of topics in small, diverse groups. The workshops are mixed with plenary panel discussions providing overview into the challenges ahead of us.

We will compile original white papers by thought leaders in a Summit White Book. The papers suggest new solutions for innovation and job creation that can be pursued by decision makers in business, education, government or media. The workshops will discuss the papers, providing comment, ideas for improvement and action points for moving forward for each suggestion.

It is our hope and ambition to continue organizing summits and workshops, as well as regional events in collaboration with our partners in the network, producing ideas and developing the network of leaders.

**Provisionary i4j website:** <http://iij.org/activities/i4j>





## Background

Innovation drives three quarters of the world's GDP growth. Innovation destroys old jobs and creates a need for new ones. But the old pegs are not fitting the new holes and unemployment is rising. We need innovation that creates wealth AND jobs.

At the dawn of the Industrial Revolution, four out of five Americans worked in agriculture. Now it's three in a hundred. Mechanization transformed agriculture into a productive, innovative industry. Today people don't complain about those lost jobs. Innovation created new jobs instead, societies reaped the benefits.

Information technology represents a new industrial revolution. White-collar jobs are vanishing, along with intellectual, service and manufacturing jobs. Teaching is going online, services moving from bricks and mortar to smart-phone apps. Manufacturing is becoming more efficient, robots replacing people. Supply chains globally are being optimized for efficiency. Better communications are simplifying global outsourcing. IT drives these phenomena.

All jobs were created by innovation. It takes time to develop professional communities that define best practices, training, education and research. But today jobs are evolving faster than educational and employment systems can adapt. The world's labor-market systems can't handle the rate of innovation, and we see rising unemployment in times when employers can't find appropriately skilled employees.

There is a failure to match people with opportunities, not lack of work. New value creation is needed more than ever. The world needs new local, regional and global infrastructure. Failure to build that infrastructure will jeopardize the welfare of future generations throughout the developed and developing world.

Human capacity is under-used or wasted because the education and employment systems' ways of matching people and jobs does not work in the innovation economy. And time has become the enemy.

Many of the world's largest economies have aging populations—more old, sick people who need care. With fewer people working to care for more old and sick people, there is no alternative but to raise productivity through innovation. But growing unemployment feeds resistance to innovation: those with jobs fear losing them.

Companies can get rid of people. Societies should not. An innovative economy that does not see all people as potential sources of value may innovate itself into misery.

In principle, viable economies should be simple: everyone delivers value, creating mutual wealth. When there is innovation, people are able to do new valuable things for each other. We 'only' need an economy that enables it.

Information technology can match people and opportunities in new, better ways, for example by leveraging on Big Data for analyzing trends, resources and opportunities or by developing better tools for bringing together people

that are a good fit. It can go beyond working with standard job labels, like "baker" or "software engineer", and match people with diverse knowledge, skill sets and talents with equally diverse opportunities, like dating services aspire to do. More people could get jobs for their unique combinations of capabilities rather than their resemblance to cookie-cut role models.

Information technology is the modern literacy. It is the key to lifelong learning, the only learning concept that meets the requirements of the constant change produced by the innovation economy. Education needs to train people better to use information technology for augmenting their intelligence and creativity, and enhancing collective intelligence in society.

The necessary reforms are complex, they require collaboration across disciplines and stakeholder groups. Organizational culture is an issue: government departments for enterprise, employment and education don't talk much. In science and education it is not easy to cross disciplines. In companies, innovation and HR are separate, especially in large organizations. Innovation economists don't manage jobs; labor economists don't handle innovation.

The mantra "Innovation for jobs" is popular, but discussions are usually disconnected, and societies remain mired in discussing innovation OR jobs.

- Innovation economists need quantifiable ways to agree on how innovation can create jobs and job satisfaction.
- Labor economists need to consider the power of job creation to improve economic growth and fiscal balance, and how to measure return on investment in job creation where more people create more value for mutual benefit.
- Academic research needs to measure success beyond approval rates within scientific peer communities. There is a need to measure the value of academic research also by how it manages to cross the barriers between disciplines, engage multiple stakeholder groups, spur creativity and entrepreneurship, and result in innovation.
- Leaders need to measure the success of combined innovation and job creation as long-term improvements in what people need: greater satisfaction and happiness, improved physical and mental health, enriched art, culture and creativity, enhanced communication. It is important to develop better tools for understanding of the connections between such indicators pinpointing life qualities and general key economic indicators, such as GDP or income per capita..
- We need a common language for discussing the link between innovation, labor and quality of life, to enable constructive interaction across activities, help leadership compete for approval from citizens, shareholders and customers, maintaining checks and balances, and improve value creation for all.

**TABLE OF CONTENTS**i4j MISSIONABOUT THE SUMMITBackgroundSUMMIT FORMATWHITE BOOKGROUP DISCUSSIONSBLUE BOOKSUMMIT PROGRAMMONDAY 18 MARTUESDAY 19 MARCONFIRMED PARTICIPANTSMODERATORSEXECUTIVE ADVISORY BOARDADVISORY BOARDMANAGEMENT TEAMPARTNERSHIPS / SPONSORSHIPSSUPPORT LEVELSSPONSORSPLATINUM SPONSOR\*-GOLD SPONSORSILVER SPONSORACADEMIC PARTNERMEDIA PARTNERAPPENDIX A: BIOGRAPHIESAPPENDIX B: SUMMIT MATERIALSi4j WHITE PAPERSDESCRIPTION / GUIDELINES FOR AUTHORSReviewers:WHITE PAPERSABSTRACTSEntrepreneurship, Migration and Public PolicyCase study: A Behavioral Economics Method for Improving Regional Innovation and Job Creation - Nebraska, USADemographics indicators for shaping an integrated policy on innovation, entrepreneurship, and job creationEmployment in a Digital World - Where Do I Go to Work?Re-Integrating Losers of Innovation-Driven Structural Change - What can Labor Market Policy Do?Eric Thode, Bertelsmann StiftungBOOKS

## SUMMIT FORMAT

- Agenda: Innovation and Job Creation, bridging innovation and job policies/strategies.
- Two day interactive summit
- Maximum a hundred participants, invitation only.
- Leaders/thought leaders from business, education, government and media.
- Work meeting: Interactive discussions. Some panels. No keynotes.
- All participants have a role: white paper author, panelist, moderator or commentator.
- Chatham House Rules: Participants are free to use the information received, but neither the identity nor the affiliation of the speakers may be revealed.
- Venue: SRI International Conference Center - International Building.
- Panels are moderated by high-class editors/journalists from partnering news outlets
  - e.g. Bloomberg, TechCrunch, Xconomy

## WHITE BOOK

- A white book (collection of white papers) is prepared for the summit.  
Each white paper
  - analyzes a challenge and suggests a solution
  - provides input for one or several table discussions
- The summit participants receive the white book before the summit

## GROUP DISCUSSIONS

- Group discussions discuss a challenge and a solution presented by a white paper
- Each group discussion produces bullets on
  - the applicability of the solution
  - possible improvements of the solution
  - action points for moving forward
- All bullets are made accessible to all summit participants immediately.
- Bullets are shared with the authors of the white papers

## BLUE BOOK

- The "Blue Book" is meant as an easily read book of applicable ideas for decision makers.
- It presents a selection of challenges and solutions discussed at the summit
- It combines white papers with table discussion output

## SUMMIT PROGRAM

### MONDAY 18 MAR

08:00 AM	Registration / Breakfast Hand out conference materials, books
09:00 AM	Welcome - Vint Cerf, Curt Carlson, Organizing Committee
10:00 AM	Panel 1: How to measure Innovation for Jobs Jim Clifton, Gallup (3 more + moderator)
10:45 AM	Break
11:15 AM	Table Discussion 1
12:45 PM	Lunch
02:00 PM	Panel 2

02:45 PM	Table Discussion 2
04:15 PM	Break
04:45 PM	SUM-UP Plenary session with panel and discussion among the whole audience Panel + Organizers / Moderators: 2 Media Partners
06:15 PM	Summit Dinner

**TUESDAY 19 MAR**

08:00 AM	Breakfast
08:30 AM	Welcome - fireside: summary of Day one, presentation of Day 2 Vint Cerf, Curtis Carlson + Organizers/Flodström/Littorin/Nordfors
09:00 AM	Panel Discussion 3
09:45 AM	Break

10:15 AM	Table Discussion 3
11:30 AM	Panel Discussion 4
12:45 PM	Lunch
01:45 PM	Table Discussion 4
03:00 PM	SUM-UP Plenary session with panel and discussion among the whole audience Panel + Organizers / Moderators: Media partners
04:00 PM	Break
04:30 PM	<i>tentative - public seminar / press event</i>
06:00 PM	<i>tentative - public reception</i>

## CONFIRMED PARTICIPANTS

- Nora Abousteit, Founder and CEO, Kollabora
- Vint Cerf, VP and Chief Internet Evangelist Google. **Opening speaker**
- Curtis Carlson, President SRI International. **Hosting speaker**
- Angeles Bermudez-Svankvist, President of WAPES - the World Association of Public Employment Services Public Employment Policies and Services
- Jim Clifton, Chairman and CEO of Gallup
- Per Eriksson, Vice-Chancellor, Lund University, Sweden *(to be confirmed)*
- Aart de Geus, Chairman and CEO, Bertelsmann Stiftung, Germany
- Steve Jurvetson, Managing Director, Venture Capital, Draper Fisher, Jurvetson
- Michael Nelson, Analyst, Technology Policy, Bloomberg Government; Visiting Professor, Georgetown University
- Henry Kressel, Partner & Managing Director, Warburg Pincus; Member, SRI Board of Directors
- Robert Litan, Director of Research, Bloomberg Government,
- Geoffrey Moore, high technology consultant, venture partner at Mohr Davidow Ventures; Author
- Eric Thode, Senior Expert, Economic and Social Affairs, Bertelsmann Stiftung
- John Voeller, Senior VP, Black & Veatch
- Esther Wojcicki, Educator, Board Chair, Learning Matters; Vice Chairman Creative Commons.
- Gregg Pascal Zachary, Professor of practice, Walter Cronkite School of Journalism and Communication, Arizona State University

## MODERATORS

- **Bloomberg Government**
  - Allan Holmes, Technology Regulations Team Leader
- **TechCrunch**
  - Gregory Ferenstein, Writer, Innovation, Education and Policy
- **Xconomy**
  - Robert Buderj, Founder and Editor-in-Chief

## EXECUTIVE ADVISORY BOARD

- Vint Cerf (Chair), VP and Chief Internet Evangelist Google.
- Curtis Carlson, President SRI International.
- Jacob Ziv, President Emeritus Israel Academy of Sciences and Humanities

## ADVISORY BOARD

- Robert Litan, Director of Research, Bloomberg Government,
- John Voeller, Senior VP, Black & Veatch.

## MANAGEMENT TEAM

- David Nordfors (Chair), President IIIJ, Executive Director & Co-founder Stanford Center for Innovation and Communication 2004-2011
- Sven Otto Littorin, Senior Consultant IIIJ, Swedish Minister for Employment 2006-10, President European Council of Ministers 2009



Oct 1 2012

i4j Prospect \* Document in progress. \* confidential

11

- **Anders Flodström**, Board of Directors IIJ, Vice Chairman EIT - European Institute of Innovation and Technology, University Chancellor of Sweden and head of the Swedish National Agency for Higher Education 2007 - 2010, Rector of KTH the Royal Institute of Technology 1999-2007

## **PARTNERSHIPS / SPONSORSHIPS**

### **SUPPORT LEVELS**

#### **\$50k - Platinum**

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The partner/sponsor can bring a delegation of up to five people.  
The partner/sponsor logo is placed on published material.

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The partner/sponsor can bring a delegation of up to two people.  
The partner/sponsor logo is placed on published material.

#### **\$10k - Silver**

Partner/sponsor participates in the Advisory Board.  
The partner/sponsor logo is placed on published material.

#### **\$5k - Sponsor**

The partner/sponsor logo is placed on published material.

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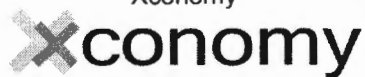


### MEDIA PARTNER

Bloomberg Government Newsroom



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## APPENDIX A: BIOGRAPHIES



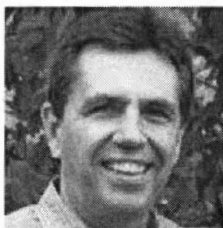
### NORA ABOUSTEIT

Nora is the founder of Kollabora.com, an online platform with fashion forward DIY projects in jewelry, knitting, and sewing. Before starting Kollabora, Nora set up DIY fashion community BurdaStyle.com, with over 800,000 members. She began her career at German power-publisher Hubert Burda Media and is part of the founding team of the DLD (Digital Life Design) conference. She is a published author and has been invited to share her experience at Picnic, FOO (Friends of O'Reilly Media), Parsons School of Design, Stream, the World Economic Forum Media Summit, and NY Forum. Her work has appeared in The New York Times, Wired, BusinessWeek, Women's Wear Daily, and Fast Company. She was just elected to the board of the Craft and Hobby Association.



### ANGELES BERMUDEZ-SVANKVIST

Angeles Bermudez-Svankvist is the president of WAPES, the World Association for Public Employment Services. Since 2008 she is the Director-General of Arbetsförmedlingen, the Swedish Public Employment Service, one of Sweden's largest state authorities with a yearly budget of 7911 Million Euro. With a university degree in Dental Surgery, she has an extensive background in the sector of health services where she successfully has developed and built organisations by focusing on change management. Brought up in a bilingual environment she is a talented communicator and negotiator with a profound interest in people. Ms Bermudez-Svankvist benefits from excellent networks in the fields of politics, public administration, private sector and civil society.

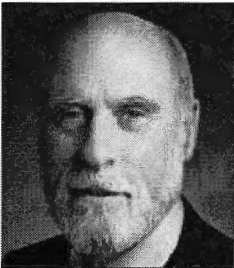


### ROBERT BUDERI (Moderator)

Bob is founder, CEO, and editor in chief of Xconomy. He was a research fellow in MIT's Center for International Studies, and Editor in Chief of MIT's Technology Review. Bob led the magazine to numerous editorial and design awards and oversaw its expansion into three foreign editions, electronic newsletters, and conferences. As BusinessWeek's technology editor, he shared in the 1992 National Magazine Award for The Quality Imperative. Bob is the author of three books about technology and innovation. Guanxi (2006) focuses on Microsoft's Beijing research lab as a metaphor for global competitiveness. Engines of Tomorrow (2000) describes the evolution of corporate research. The Invention That Changed the World (1996) covered a secret lab at MIT during WWII. Bob served on the Council on Competitiveness-sponsored National Innovation Initiative and is an advisor to the Draper Prize Nominating Committee.

**CURTIS CARLSON (Executive Advisory Board)**

Curtis Carlson is a member of the IIJ Advisory Board. He is CEO of SRI International. He started the high-definition television (HDTV) program that became the U.S. standard. His teams at Sarnoff won two Emmy awards. He is on many public and private boards, including the Air Force Scientific Advisory Board, the U.S. Army Research Laboratory Technical Assessment Board, and the Defense Science Board task force on bio-chemical defense. He serves as co-chairman of the Scientific Advisory Board of the Singapore National Research Foundation. Carlson was given the Medal of Excellence Award for Alumni Lifetime Achievement by Rutgers University's School of Engineering.

**VINT CERF (Chair, Executive Advisory Board)**

Vint Cerf is the member of the IIJ Advisory Board. He is one of the "Fathers of the Internet". He is a co-designer of the TCP/IP protocols and the basic architecture of the Internet. He is presently Chief Internet Evangelist & VP of Google. He has been chairman of ICANN, that manages the Internet root domain, and served as founding president of the Internet Society (ISOC), which hosts the Internet Engineering and Research Task Forces as well as the Internet Architecture Board. He is the recipient of the U.S. National Medal of Technology and the Presidential Medal of Freedom. Vint has served as Senior Vice President at MCI, Vice President of the Corporation for National Research Initiatives (CNRI), Assistant Professor of Electrical Engineering at Stanford University and Principal Scientist in the Information Processing Techniques Office of the Defense Advanced Research Projects Agency.

**JIM CLIFTON**

Since 1988, Jim Clifton has served as Chairmand and CEO of Gallup, a leader in organizational consulting and public opinion research. His most recent innovation, the Gallup World Poll, is designed to give the world's 7 billion citizens a voice in virtually all key global issues. Mr. Clifton has pledged to continue this effort to collect world opinion for 100 years in 150 countries. Under Mr. Clifton's leadership, Gallup has achieved a fifteenfold increase in its billing volume and expanded Gallup from a predominantly U.S.-based company to a worldwide organization with 40 offices in 30 countries and regions. Mr. Clifton is the creator of The Gallup Path, a metric-based economic model that establishes the linkages among human nature in the workplace, customer engagement, and business outcomes. This model is used in performance management systems in more than 500 companies worldwide. He is also the author of many articles and of the book *The Coming Jobs War*. Mr. Clifton serves on several boards and is Chairman of the Thurgood Marshall College Fund. He has received honorary degrees from Jackson State, Medgar Evers, and Bellevue Universities.

**AART DE GEUS**

Aart Jan De Geus is the Chairman and CEO of the Bertelsmann Foundation, the largest private operating non-profit foundation in Germany and the majority owner of Bertelsmann AG. He was previously deputy secretary general of the Organization for Economic Cooperation and Development (OECD), responsible for employment, labor and social affairs (including health, pensions and migration), education as well as entrepreneurship and governance. He coordinated the horizontal project Making Reform Happen, and was also in charge of the OECD's activities on gender and diversity issues. From 2002 to 2007, De Geus served as Minister of Social Affairs and Employment of the Netherlands. From 1980, De Geus worked for the Christelijk Nationaal Vakverbond (CNV), a trade union federation in the Netherlands. He became its vice chairman in 1993 with responsibility for social security, pensions, health and employment. In this capacity, he was appointed a member of the Social and Economic Council of the Netherlands ("Sociaal-Economische Raad").

**PER ERIKSSON**

Per Eriksson is the Vice Chancellor of Lund University in Sweden, one of Scandinavia's largest institutions for education and research. As founding Director General of the National Swedish Innovation Agency VINNOVA 2001-2009 he oversaw the creation of the original Innovation Journalism initiative, in Sweden, and was a key funder of the Stanford Center for Innovation and Communication, as well as of IIJ during the same period. Per Eriksson was the first Vice Chancellor of Blekinge Tekniska Högskola. He is a member of the Swedish Royal Academy of Engineering Sciences and a recipient of the Swedish King's Medal.

**GREGORY FERENSTEIN (Moderator)**

Gregory Ferenstein is a technology journalist and educator at TechCrunch. He writes about the intersection of technology and politics, education and any other way the Internet changes the traditional way we organize. As an educator, he has taught every age, from elementary school to college, and does academic research on curricula. He also holds a Master's in Mathematical Behavioral Science.

**ANDERS FLODSTRÖM (Management Team)**

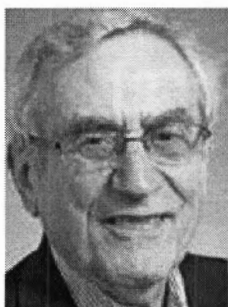
Anders Flodström is a member of the IIIJ board of Directors and the IIIJ Advisory Board. He was vice-chairman of the board and a member of the Executive Committee of EIT, the European Institute of Innovation and Technology, the University Chancellor and President of the Swedish National Agency for Higher Education, Vice Chancellor at the Royal Institute of Technology (KTH), Stockholm and Vice Chancellor at Linköping University. He was the Secretary General of the Swedish Research Council for Engineering Sciences and CEO of the Knowledge Foundation (KK-stiftelsen). He is the Chairman of .se, the Swedish Internet Infrastructure Foundation controlling the Swedish Internet top level domain. He is a member of the Swedish Academy for the Engineering Sciences (IVA), honorary doctor at Riga Technical University in Latvia, Helsinki Technical University (TKK) and honorary professor in Dalian University of Technology in China. He is a member of the advisory board of Karlsruhe Technical Institute (KIT) and a former Chairman of CLUSTER and Baltech a network of technical universities around the Baltic Sea. He is professor in physics at the Royal Institute of Technology (KTH) in Stockholm, Sweden, and one of the initiators of the MAX synchrotron radiation lab.

**ALLAN HOLMES (Moderator)**

Allan Holmes is the editor of the technology regulation team for Bloomberg Government. He leads a team of analysts who produce content on how U.S. federal regulations, legislation, policies and government spending affect technology companies. Holmes previously was executive editor of the government technology website Nextgov and Government Executive magazine, Atlantic Media properties. Prior to joining Government Executive, he was the Washington bureau chief at CIO magazine. Holmes has covered business, focusing on finance and transportation; state government; and health care, including President Clinton's health reform initiative in 1993 and 1994. He has written for The New York Times, Time magazine, and U.S. News and World Report. He earned a bachelor's in journalism from University of North Carolina at Chapel Hill and a master's in public policy from Duke University.

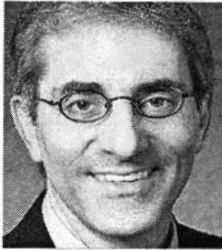
**STEVE JURVETSON**

Steve Jurvetson is a Managing Director of Draper Fisher Jurvetson, a venture capital firm. He was the founding VC investor in Hotmail (MSFT), Interwoven (IWOV), Kana (KANA), and NeoPhotonics (NPTN). He also led the firm's investments in other companies which were then acquired for \$12 billion in aggregate. Current Board positions include SpaceX, Synthetic Genomics, and Tesla Motors (TSLA). Previously, Steve was an R&D Engineer at Hewlett-Packard, where seven of his communications chip designs were fabricated. His prior technical experience also includes programming, materials science research (TEM atomic imaging of GaAs), and computer design at HP's PC Division, the Center for Materials Research, and Mostek. He has also worked in product marketing at Apple and NeXT Software. Steve also holds an MS in Electrical Engineering from Stanford. He received his MBA from the Stanford Business School, where he was an Arjay Miller Scholar. He also serves on the Advisory Boards of SRI International, STVP, and the Stanford Engineering Venture Fund and is Co-Chair of the NanoBusiness Alliance. He was honored as "The Valley's Sharpest VC" on the cover of Business 2.0. In 2005, Steve was honored as a Young Global Leader by the World Economic Forum and a Distinguished Alumnus by St. Mark's, where he was the 2010 Commencement Speaker.

**HENRY KRESSEL**

Henry Kressel is a partner and a managing director of Warburg Pincus, a diversified venture capital firm, and a member of the board of directors of SRI International. Kressel began his career as a researcher in electronics and lasers at RCA Laboratories, which became Sarnoff Corporation and is now integrated into SRI International. There, he devoted 24 years and attained the position of staff vice president. During his career, he led the development and commercialization of many semiconductor device breakthroughs in light sources, detectors, and integrated circuits. His work pioneered the first practical semiconductor lasers and the first epitaxial silicon solar cell. He is Chairman of the Board of Trustees of Yeshiva University. He holds 31 U.S. patents and has published more than 120 papers and three books. As the founding president of the IEEE Photonics Society, Kressel was instrumental in founding the Journal of Lightwave Technology, and has received many scientific awards and honors. He is a fellow of the IEEE and the American Physical Society, and a member of the National Academy of Engineering. Kressel has an M.S. in applied physics from Harvard, a Ph.D. in Material Science from the University of Pennsylvania, and an MBA from its Wharton School. He received an honorary doctorate from Yeshiva University.





#### **ROBERT LITAN (Advisory Board)**

Robert Litan is Director of Research at Bloomberg Government. He is a Senior Fellow in Economic Studies at the Brookings Institution. He was previously the Vice President for Research and Policy at the Kauffman Foundation in Kansas City and Vice President and Director, Economic Studies, at Brookings. He has served as Deputy Assistant Attorney General in charge of civil antitrust litigation at the Department of Justice and associate director of the Office of Management and Budget. Litan has been frequently called to testify before Congress on a variety of subjects reflecting his recognized experience interpreting the interplay between government and business. He has written a number of federal reports, including congressionally-mandated studies. He has published 40 books and over 200 articles. Litan received his B.S. in Economics from the Wharton School of Finance at the University of Pennsylvania; his J.D. from Yale Law School; and both his M. Phil. and Ph.D. in Economics from Yale University.



#### **SVEN OTTO LITTORIN (Management Team)**

Sven Otto Littorin is a ILLJ Senior Consultant. He was Sweden's Minister for Employment 2006-2010, in charge of a major overhaul of the unemployment insurance system and the Public Employment Service. In the fall of 2009, Mr. Littorin was President of the European Council of Ministers, in its Epsco formation (Ministers for Employment, Social Policy, Health and Consumer Affairs). He oversaw European Union response to labor market effects caused by the financial crisis of 2008-09. In the previous election term, 2002-06, Mr. Littorin was the Secretary General of the Moderate Party, raising the party's polls from 15.2 % in 2002 to 26.2 % in 2006. Prior to his public assignments, Mr. Littorin founded and ran Momentor, a Venture Catalyst firm, for five years. In 1993-1997, Mr. Littorin was Senior Vice President at public relations firm Kreab, stationed in New York and Sweden, where he was in charge of crisis management and financial information. In 1991-93, Mr. Littorin served as Chief of Staff to the Minister for Fiscal and Financial Affairs at the Ministry for Finance, during the worst financial crisis that Sweden has ever experienced. He took part in setting up the crisis package that saved the Swedish financial system and its institutions from certain bankruptcy, later highlighted in the US debate during the financial crisis in 2008.



#### **GEOFFREY MOORE**

Geoffrey Moore is an author, speaker and business advisor to companies in the high-tech sector, such as Cisco, HP, Microsoft, SAP, and Yahoo!. He is Managing Director of Geoffrey Moore Consulting and a Venture Partner at Mohr Davidow Ventures. He was Chairman of TCG Advisors, The Chasm Institute and The Chasm Group, and Member of the Board of Directors of Akamai Technologies among other companies. Moore has written six books: Crossing the Chasm, Inside the Tornado, The Gorilla Game, Living on the Fault Line, Dealing with Darwin. His most recent book, Escape Velocity, lays out a comprehensive program for large companies engaging with next-generation trends while maintaining their core franchises. He has been a principal and partner at Regis McKenna, Inc., a leading high tech marketing strategy and communications company, and a sales and marketing executive in the software industry. He has a bachelor's degree from Stanford and a doctorate from the University of Washington, both in English Literature.



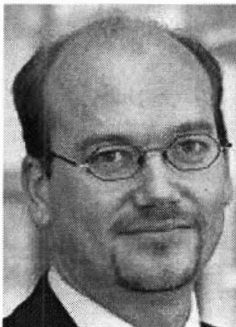
#### **MICHAEL NELSON**

Michael Nelson is an Analyst on Technology Policy for Bloomberg Government and former Research Associate of the Leading Edge Forum. Michael was Visiting Professor of Internet Studies in Georgetown University's Communication, Culture, and Technology (CCT) Program, a trans-disciplinary masters program in how information technology and society shape each other. He was Director of Internet Technology and Strategy at IBM, co-managing IBM's Next Generation Internet strategy. Michael was Director for Technology Policy at the FCC, where he helped craft policies to spur the growth of the Internet. Until 1997, he was Special Assistant for Information Technology at the White House Office of Science and Technology Policy, working with Vice President Al Gore on electronic commerce, and ICT policy. In this role he drafted the legislation that opened up the Internet for commercial use. He has a PhD from MIT, a BS from Caltech, and was recently named a Fellow by the American Association for the Advancement of Science for his contributions to science and technology in the field of information, computing and communication.



#### **DAVID NORDFORS (i4j Chair, Management Team)**

David Nordfors is the president and co-founder of IIIJ. He was previously co-founder and Executive Director of the Center for Innovation and Communication at Stanford University. He was one of the World Economic Forum Innovation 100 in 2009, and has served on WEF Global Agenda Councils. He serves on advisory boards of the Poynter Institute, Discern Investment Analytics and Black & Veatch. He is an adjunct professor at IDC Herzliya in Israel, a visiting professor at Tallinn University, the Tecnologico de Monterrey, and the Deutsche Welle Akademie. He was advisor to the Director General at VINNOVA, the Swedish Agency for Innovation Systems, where he co-initiated the national Swedish Incubator System and set up a bi-national R&D fund between Sweden and Israel for mobile applications. He was Director of Research Funding of the Knowledge Foundation, KK-stiftelsen, administering an endowment of \$300MUSD, building a funding framework underwriting over a hundred innovation initiatives between universities and industry. He initiated and headed the first hearing about the Internet to be held by the Swedish Parliament. He has a Ph.D. in physics from the Uppsala University and did his postdoc in Theoretical Chemistry in Heidelberg, Germany.



#### **ERIC THODE**

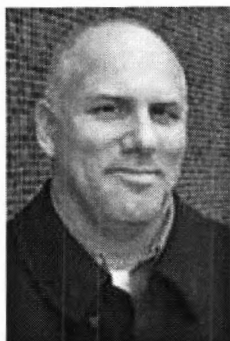
Eric Thode is Senior Expert at the Bertelsmann Foundation. He handles International economic and social policy, Labor market policy and National and international Benchmarking. He is Assistant professor of economics at Bielefeld University of Applied Sciences

**JOHN VOELLER (Advisory Board)**

John Voeller is a Senior advisor and former Senior VP of Black & Veatch, where he has held several previous positions, including nuclear engineer, CIO and CTO. He consulted for the Department of Homeland Security Office of Science and Technology since its creation. In 2003, he was made an ASME White House Fellow in the Office of Science and Technology Policy, Executive Office of the President. In these roles he developed strategic and tactical plans for interagency and national initiatives and promoted multi-agency collaboration. He has received numerous awards including the FIATECH James Porter Award for Lifetime Achievement in Technology and Innovation, 2010, the Award of Excellence from Engineering News Record magazine for 1998, the CIO Enterprise Value Award for 1997 from CIO magazine, the Ed Forrest Award For Highest Achievement in Engineering Automation for 2000 and the CIO Premier 100 Award as one of top 100 CIO's In the US for 2000.

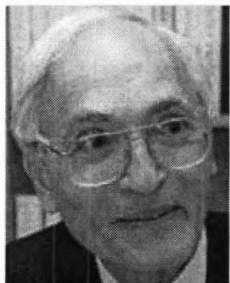
**ESTHER WOJCICKI**

Esther Wojcicki is an educational innovator using journalism courses as a vehicle for training youth in problem-based project-oriented learning, developing skill sets for the innovation economy. Applying this method, she has headed the development of what has become the largest high school journalism program in the U.S involving 600 students, at the Palo Alto High School. She was the 1990 Northern California Journalism teacher of the year, the 2002 California State Teacher Credentialing Commission Teacher of the Year, was recognized for inspiration and excellence in scholastic journalism advising by the National Scholastic Press Association in 2008, and was awarded the Gold Key Award by Columbia University Scholastic Press in 2009. She has served on the University of California Office of the President Curriculum Committee. She served as the Google educational consultant, co-designing the Google Teacher Academy and Google Faculty Institute. She holds a B.A. degree from UC Berkeley in English and Political Science, and a M.A. in Educational Technology from San Jose State University. She also has a Master's from the Graduate School of Journalism at Berkeley and an advanced degree in French and French History from the Sorbonne, Paris. She has worked as a professional journalist for multiple publications and now blogs regularly for [HuffingtonPost](http://HuffingtonPost.com).

**G. PASCAL "GREGG" ZACHARY**

G. Pascal ("Gregg") Zachary is a professor of practice at the Cronkite School at the Arizona State University. He also teaches courses on technology, policy and society as a professor of practice at ASU's Consortium for Science, Policy & Outcomes.

His four books include "The Diversity Advantage: Multicultural Identity in the New World Economy" (2003) and "Endless Frontier: Vannevar Bush, Engineer of the American Century" (1997), which won the IEEE Literary Award and was described as "deeply informed" by the New York Times. From 1989 to 2002, Zachary was a senior writer for The Wall Street Journal. He was based first in San Francisco, where he covered Silicon Valley, and later in London, where he reported on globalization. From 2004 to 2006, Zachary was a senior editor at Time Inc.'s Business 2.0 magazine and from 2007 to 2008 he wrote the "Ping" column on innovation for The New York Times. He has taught journalism as a lecturer at Stanford University (2007 to 2008) and at the University of California at Berkeley (1995 to 1998). He has written and directed several television documentaries, including "Code Rush," about innovation in Silicon Valley, for PBS. He also is regularly interviewed on world affairs by the BBC, Voice of America, Marketplace and other radio outlets. Zachary currently writes the "Scientific Estate" column for Spectrum magazine and contributes perspectives on African politics to The Atlantic.

**JACOB ZIV (Executive Advisory Board)**

Jacob Ziv is a member of the IJF Advisory Board. He is a co-inventor of LZ-algorithm, (Z stands for Ziv) which is one of the pillars of the Internet and information science as a whole. He is Professor at the department of Electrical Engineering of the Technion University in Haifa, Israel. Ziv has been President of the Israel academy of Sciences and Humanities, Chairman of the Israeli Universities Planning and Grants Committee, which manages the national budget for universities. Ziv is the recipient of many awards, among them the Israel Prize, the Information and Communication Technologies Award of the BBVA Foundation Frontiers of Knowledge Awards.

## APPENDIX B: SUMMIT MATERIALS

### i4j WHITE PAPERS

ALL PAPERS ARE ORIGINAL WORK PRODUCED FOR i4j,

#### DESCRIPTION / GUIDELINES FOR AUTHORS

**All white papers focus on the connection between innovation and jobs.**

**A paper describes a challenge, presents an analysis, a thesis and a policy recommendation.** This can be a policy recommendation for government, corporate management, educational leadership, and so on. The paper suggests WHO can do WHAT. Papers will refer to examples, when applicable.

Papers serve as input for group discussions, which will produce a series of bullets: a) Additions to the policy recommendation; b) strategies for implementation. The groups will be diverse, therefore the papers will be focussed, in order to hold together the discussions.

**Each paper presents one (1) policy recommendation .**

**Each paper is 10-15 pages**

*Reviewers:*

- Vint Cerf
- Anders Flodström
- Jacob Ziv

**WHITE PAPERS**

1. **Entrepreneurship, Migration and Public Policy. \_**  
Robert Litan, Director of Research, Bloomberg Government
2. **Case study: A Behavioral Economics Method for Improving Regional Innovation and Job Creation - Nebraska, USA**  
Jim Clifton, President and CEO, Gallup
3. **Regional 'Place-based' policy approach for promoting synergies between innovation and job creation.**  
OECD, William Tompson et. al.
4. **Suggestions for bridging innovation and job creation in national governments**  
Sven Otto Littorin, IIIJ, Swedish Minister for Employment 2006-10, President of the European Council of Ministers (EPSCO) 2009.
5. **Demographics indicators for shaping an integrated policy on innovation, entrepreneurship, and job creation**  
Dane Stangler, Director of Research & Policy, Ewing Marion Kauffman Foundation
6. **Employment in a Digital World - Where Do I Go to Work?**  
Geoffrey Moore, Author, Speaker, Advisor
7. **Re-Integrating Losers of Innovation-Driven Structural Change - What can Labor Market Policy Do?**  
Eric Thode, Senior Expert, Economic and Social Affairs, Bertelsmann Stiftung
8. (Tentative / Tentative Title: **Reforming K-12 for entrepreneurship and employability in the innovation economy**)  
Esther Wojcicki, Educator, Board Chair, Learning Matters; Vice Chairman Creative Commons. Designing K-12 Education for the Innovation Economy

## ABSTRACTS

The abstracts are in varying preliminary stages and are subject to change

### *Entrepreneurship, Migration and Public Policy*

Robert Litan, Bloomberg Government

Two facts about the US economy are not widely known: (1) that between 1980 and the Great Recession, virtually all net new jobs were created by firms less than five years old; and (2) that immigrants have been responsible for founding or co-founding roughly 25% of successful high-tech startups (as well as launching businesses at rates above the national average). Since the recession, however, the number of new businesses has plunged from a pre-recession range of 550-600 thousand per year to about 400,000 annually, while the number of jobs created per startup has been falling for over a decade (more likely due to structural than cyclical forces).

It should be clear then that the US economy will only have a sustained recovery or enjoy robust growth over the long run if it can restore its entrepreneurial mojo, and that one important key to doing that is to allow more immigrants, especially those with skills to launch new growth businesses that they are acquiring by attending US universities, to come and stay in this country.

In this essay, I will highlight several what I believe to be sensible approaches to immigration reform – approaches that make economic sense and that are politically realistic.

### *Case study: A Behavioral Economics Method for Improving Regional Innovation and Job Creation - Nebraska, USA*

Jim Clifton, President and CEO, Gallup

(See also Jim Clifton's book "The Coming Jobs War" which will be distributed at the Summit)

America is the best in the world at intellectual development, and we're highly intentional about this. We have tests to find stars at early ages and get them in accelerated programs --- through high school and then scholarships to the best university system in the world and then onto labs like NIH, CDC, NASA and a hundred more. This works, and it causes the United States to be the global leader in innovation.

Here's the problem: Innovation has little value until it creates a customer. An innovation only generates economic value and energy when it is adopted by a great entrepreneur who applies a superb business model to it. But all-important entrepreneurship is currently left much more to chance and randomness --- or at least significantly less intentionality --- than innovation, yet is arguably more important. In my view entrepreneurship is the horse and innovation the cart, not vice versa.

Until we have a nationwide system for entrepreneurship that closely emulates intellectual development, the American economy will remain stalled indefinitely. But once we do crack the code of more predictable development of entrepreneurial talent, the economic and quality GDP growth of the United States will prove to be infinite. This includes high-acceleration engineering of the six million existing small businesses across the country.

*Demographics indicators for shaping an integrated policy on innovation, entrepreneurship, and job creation*

Dane Stangler, Director of Research & Policy, Ewing Marion Kauffman Foundation

Demography, they say, is destiny. While reality is not that deterministic, it is undeniable that demography is driving pressure for innovation and job creation across the world. Demographic trends are one of the few indicators that allow us to peer into the future, at least a short-term future. This paper looks at various demographic trends and using lifecycle analysis from economics to look specifically at the implications for entrepreneurship in developed and developing nations. Demographics cannot be altered by policymakers, but having a handle on the trends and their potential impact in terms of innovation, entrepreneurship, and job creation should allow policymakers to put in place the proper frameworks to manage such changes.

*Employment in a Digital World - Where Do I Go to Work?*

Geoffrey Moore

There is a transformation of work that is continuing to unfold in the 21st century that is rooted in the digitization of human culture and the virtualization of value exchanges across and within a digital medium. This transformation is deeply disruptive to the 20th century paradigm of work in which people went to a specific location to interact with each other and create work artifacts that had physical representations. In a digital economy, no one cares where you actually are, only that you can be represented at the time and virtual location where you are needed. And once you are there, the work that you do, valuable though it may be, is nonetheless likely to be as evanescent and transient as the electron-transported bits that communicate it.

This is a paradigm shift indeed. It has undermined the traditional concept of a job and has created deep insecurity in American society around the future of employment. A whole generation of job seekers is confronting an economic system that is not structured in the way their parents had led them to expect. It is not that there is no work—it is that work and employment have transformed in ways we have not yet fully absorbed. It is the goal of this paper to sort out the implications of this transformation and to point the way toward policies that can capitalize on the new opportunities while mitigating the inevitable downside consequences.

Along the way we are going to have to revisit our fundamental understanding of a job, of employment, of training and development, of management, of advancement, of compensation, and of career. In this new world each individual operates fundamentally as a company of one, making a market for his or her services and developing core competencies to compete effectively for the job at hand. Yes there will continue to be teams and enterprises and organizations, and these entities will create jobs, but they cannot and will not hold out the promise of lifetime employment, if for no other reason than they are highly unlikely to last that long themselves.

In short, we need to reset our expectations across the board. The good news is, the digital economy creates enormous opportunity for value exchange, far greater than the physical economy. The challenge



is that much of mankind is only dimly aware of how to participate, and poorly trained to do so to boot. The net of it is, we have a lot of promises to keep, and miles to go before we sleep.

***Re-Integrating Losers of Innovation-Driven Structural Change - What can Labor Market Policy Do?***

Eric Thode, Bertelsmann Stiftung

Relocation of workers from declining to prospering occupations, industries and regions is key for net employment growth where more jobs are created than are destroyed. The challenge is to enable people to relocate smoothly. Since innovation and Schumpeterian creative destruction is an increasing driver of the economy, change and relocation becomes an ever larger part of work life. An increasing flow of new products, better technologies and refined ways of work organization are creating jobs. But job destruction is at the same time prominent in outdated production lines and obsolete industries. Labor market policies play an important role through supporting the employees' own efforts to relocate. The churning rate of creative destruction is ever increasing, development and production cycles are speeding up. Labor market policies have to adapt accordingly. This paper addresses the distinctive features of modern labor market policies, e.g. with respect to the design of unemployment insurance, active labor market policies and public employment services. Path dependencies and different institutional setups between the U.S. and Europe are specifically taken into account.

## BOOKS

### IN KINDLE FORMAT

#### THE COMING JOBS WAR

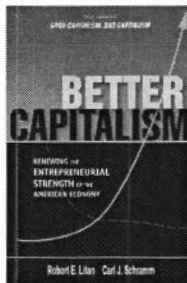
by Jim Clifton



Drawing on 75 years of Gallup studies and his own perspective as the company's chairman and CEO, Jim Clifton explains why jobs are the new global currency for leaders. More than peace or money or any other good, the business, government, military, city, and village leaders who can create good jobs will own the future. The problem is that leaders don't know how to create jobs – especially in America. What they should do is recognize that the world is in a war for jobs. It seems that leadership has lost the will to win, especially in America, but this is a competition for our lives. To win, leaders need to compete. Everyone does. The public school system needs to inculcate kids with the knowledge they'll need to compete in the jobs war. The business community needs to double the psychological engagement of workers so that it can compete with cheaper labor. The healthcare system must stop wasting the resources that we need to spend on job competition. Society needs to realize that entrepreneurs, not government, are the source of new jobs and put all its energy behind them. Perhaps most importantly, leaders need to recognize universities, mentors, and especially cities as a supercollider for job creation. If that can be done – and it can be done; leaders have done it before – new good jobs will result. There's not moment to waste: the war has already begun.

#### BETTER CAPITALISM: RENEWING THE ENTREPRENEURIAL STRENGTH OF THE AMERICAN ECONOMY

by Prof. Robert E. Litan and Prof. Carl J. Schramm



In the wake of the Great Recession and America's listless recovery from it, economists, policymakers, and media pundits have argued at length about what has gone wrong with the American capitalist system. Even so, few constructive remedies have emerged. This welcome book cuts through the chatter and offers a detailed, nonideological, and practical blueprint to restore the vigor of the American economy. Better Capitalism extends and significantly expands on the insights of the authors' widely praised previous book, *Good Capitalism, Bad Capitalism*, co-written with William Baumol. In *Better Capitalism*, Robert E. Litan and Carl J. Schramm focus on the huge—but often unrecognized—importance of entrepreneurship to overall economic growth. They explain how changes in seemingly unrelated policy arenas—immigration, education, finance, and federal support of university research—can accelerate America's recovery from recession and spur the nation's rate of growth in output while raising living standards. The authors also outline an innovative energy strategy and discuss the potential benefits of government belt-tightening steps. Sounding an optimistic note when gloomy predictions are the norm, Litan and Schramm show that, with wise and informed policymaking, the American entrepreneurial engine can rally and the true potential of the U.S. economy can be

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unlocked.

i4j Prospect \* Document in progress. \* confidential

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Oct 1 2012

i4j Prospect \* Document in progress. \* confidential

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**From:** Johanna Shelton (b) (6)  
**Sent:** Tuesday, November 20, 2012 6:54 PM  
**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

is 11:30 better than 11?

On Tue, Nov 20, 2012 at 6:22 PM, Edelman, R. David (b) (6) wrote:

A strong point – I may be leaving myself on Friday afternoon. I'm supposed to be in a meeting that goes until 11:30, but I bet I can sneak out. 11 at Teism would be good, since it's faster to get in/out of than my office.

-rD

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 5:26 PM  
**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

hey - Ross can do Fri mid-day but he can't do a full lunch (he leaves that night for Dubai) - does 11am work for you? or what would be best time mid-day?

On Tue, Nov 20, 2012 at 1:36 PM, Edelman, R. David (b) (6) wrote:

Possibilities:

Tuesday, 9am; 1pm; 5pm

Friday, 9am; lunch.

-rD

A decorative horizontal line consisting of a series of interlocking diamond shapes.

R. David Edelman

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

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Johanna Shelton  
Senior Policy Counsel  
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**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

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Much...if it works for you.

-rD

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(b) (6)

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Tuesday, November 20, 2012 12:47 PM  
**To:** Edelman, R. David  
**Subject:** check this out

thought you'd appreciate it:

<https://www.google.com/takeaction/>

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6).



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**From:** Johanna Shelton (b) (6)  
**Sent:** Tuesday, November 20, 2012 10:05 PM  
**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

great - it will be me and Ross

On Tue, Nov 20, 2012 at 9:24 PM, Edelman, R. David (b) (6) wrote:  
See you then!

---

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 07:23 PM

**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

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(b) (6).

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**From:** Sybil Anne Strimbu (b) (6)  
**Sent:** Wednesday, November 21, 2012 10:53 AM  
**To:** Mielke, Dawn M.  
**Cc:** Megan Stull  
**Subject:** Information re Attendees of 11-26-12 Meeting with Tom Power  
**Attachments:** WAVES\_spreadsheet\_11262012.xlsx

Dawn,

Per your request, attached please find an Excel spreadsheet. Should you have any difficulties opening the attachments, please let me know.

Thank you,  
Sybil

---

Sybil Anne Strimbu | Google DC (b) (6) (b) (6)



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**From:** Dorgelo, Cristin  
**Sent:** Wednesday, February 20, 2013 2:49 PM  
**To:** Karishma Shah  
**Subject:** RE: moonshot thinking in SOTU

Hi Karishma:

Over the next few weeks, we're working to sort out the timing of our White House Grand Challenges event. I'll reach out to schedule a call with you, Will and other interested Google Xers when I have a little more clarity on that plan. Does that work?

Best,  
Cristin

**Cristin Dorgelo**  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

**From:** Karishma Shah [mailto:(b) (6)]  
**Sent:** Monday, February 18, 2013 9:52 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: moonshot thinking in SOTU

Love it! :)...very powerful section of his address. Thanks for joining us at Solve for X, Cristin! Would you like to hop on a call this week or next to discuss how we can collaborate?

Best,  
Karishma

On Wed, Feb 13, 2013 at 9:28 AM, Dorgelo, Cristin (b) (6) wrote:

Google X moonshot team:

I'm sure you caught this in last night's SOTU, but in case it comes in handy as you spread the word about moonshots & making things 10x better, this paragraph from the President's address last night speaks to his commitment to pursuing audacious, game-changing goals (aka Grand Challenges & Moonshots) and to investing in research and development. One of the examples, the [Brain Activity Map](#), is a Grand Challenge we've been developing with NIH/NINDS, neuroscientists, nanotechnologists, and private foundations.

"Now, if we want to make the best products, we also have to invest in the best ideas. Every dollar we invested to map the human genome returned \$140 to our economy -- every dollar. Today, our scientists are mapping the human brain to unlock the answers to Alzheimer's. They're developing drugs to regenerate damaged organs; devising new material to make batteries 10 times more powerful. Now is not the time to gut these job-creating investments in science and innovation. Now is the time to reach a level of research and development not seen since the height of the Space Race. We need to make those investments."

All best,

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Astro Teller [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 11:44 PM  
**To:** Dorgelo, Cristin  
**Cc:** Will Patrick; Megan Smith (b) (6) (b) (6)  
**Subject:** Re: SfX Class of 2013: Thanks for everything

Thanks for being part of the event, Cristin! It was great to have you there with us!

:)

Astro.

On Tue, Feb 12, 2013 at 4:40 PM, Dorgelo, Cristin (b) (6) wrote:

Will, Megan, Astro, Karishma, Obi:

Sincere thanks again for including me in last week's inspiring Solve for X event. Great gathering of minds and some fantastic talks (in particular, I thought Saul, Shawn, Andras, Bill, Wael, Geena, and Steve knocked their talks out of the park). I've shared the videos and the new Solve for X site with many of my White House OSTP colleagues already.

I look forward to collaborating again with your fantastic team as we move closer to a White House Grand Challenges event – I'll let you know that event date as soon as we know it here.

All best,

Cristin

Cristin Dorgelo

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Will Patrick [mailto:(b) (6)]

**Sent:** Monday, February 11, 2013 6:39 PM

**To:** (b) (6) Andras Forgacs; Shawn Douglas; Prashant K. Jain; Peter Diamandis; Steve Jurvetson; (b) (6) Ehsan Afshari; Austen Heinz; Mir Imran; Catteruccia, Dr Flaminia; Anna Patterson; Padmasree Warrior (pwarrior); Chase, Charles; Vinod Khosla; Catherine Mohr; Jeff Surma; Geena Davis; O'Sullivan, Meghan; Nicholas Negroponte; Molly Morse; Marc Andreessen; (b) (6) (b) (6) Dorgelo, Cristin; (b) (6) Karishma Shah; Cady Coleman; Natalie Jeremijenko; (b) (6) Wael Ghonim; Bill Gross (b) (6) Black, Keith, L., M.D.; Regina Dugan; Cathy Zoi; Yoky mat suoka;

Hermann Hauser; Rob Nail; Sergey Brin; (b) (6)  
**Cc:** Megan Smith; Obi Felten; Astro Teller; Kathy Cooper; Will Patrick; Rodney Brooks

**Subject:** SfX Class of 2013: Thanks for everything

SfX Class of 2013:

What an amazing three days. Thank you so much for joining us and being a part of our community. I feel very lucky to spend a portion of my day job helping to put this group together. As a young person, I feel awed by your intelligence & passion and inspired to do ever bigger and crazier things. Thank you for that!

A few things I wanted to share with you.

1. We announced the 2013 event and our new website ([www.solveforx.com](http://www.solveforx.com)) & partnerships this morning on the official Google [blog](#) (which includes the 'moonshot thinking' video).
2. We literally just pushed (most) of the talks public. Here are the links:
  - o [Astro & Megan](#) open Solve for X [will be [here](#)]
  - o [Peter & Eric](#) on asteroid mining
  - o [Eric's](#) introduction
  - o [Rodney](#) on american manufacturing
  - o [Shawn](#) on Targeted Therapeutics
  - o [Charles](#) on compact fusion
  - o [Danielle](#) on economical energy storage
  - o [Andras](#) on sustainable, scalable meat
  - o [Keith](#) on Alzheimer's diagnostics
  - o [Sergey](#) on taking moonshots & the value of failing
  - o [Geena](#) on gender inequality in media
  - o [Austen](#) on democratizing creation
  - o [Flaminia](#) on malaria eradication
  - o [Prashant](#) on optical computing
  - o [Bill](#) on solar cheaper than natural gas
  - o [Saul](#) on inflatable robotics
  - o [Molly](#) on replacing plastic
  - o [Ehsan](#) on low-cost terahertz
  - o [Jeff](#) on municipal waste to energy
  - o [Natalie](#) on xDrones
  - o [Steve Jurvetson](#) on the tech-accelerated rich poor gap [will be [here](#)]
3. We've started getting some press coverage ([TechCrunch](#), [Verge](#), [Mashable](#)). We'd love your help with creating more buzz buzz buzz. For social media, try using #solveforx. If your company / organization would like to do any press, feel free to utilize the blog post as a starting point. I can also put you in touch with our comms team here at Google[x].
4. Check out Astro's [op-ed](#) in Wired.

5. We're looking for feedback! We'll send out a feedback form in the next couple days.
6. We're already searching for the next batch of moonshots for SfX 2014. What did we miss? Who should we be talking to? What moonshot idea should be represented on our stage?

Finally, the biggest outcomes of SfX 2012 came from the relationships created at the event ... I expect this year to be no different. Everyone who attended is on this email; don't be a stranger! Reach out to your fellow participants and continue the dialog ue. Of course, you're more than welcome to reach out to me and anyone else on the Google[x] team (see cc'd list) for any reason.

Talk soon!

Cheers,

Will (on behalf of Astro, Megan and the rest of the SfX crew)

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- Astro

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Karishma Shah	Google[x]	(424)-23K-SHAH	(b) (6)
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If you received this communication by mistake, please do not forward it to anyone else as it may contain confidential or privileged information; please erase all copies of it, including all attachments, and let the sender know that it has been sent to the wrong person.

The above terms may reflect a potential business arrangement and are provided solely as a basis for further discussion. They are not intended to be and do not constitute a legally binding obligation. No legally binding obligations will be created, implied, or inferred until an agreement in final form is executed in writing by all parties involved.

**From:** Edelman, R. David  
**Sent:** Wednesday, February 20, 2013 10:22 PM  
**To:** George Ivanov  
**Subject:** RE: Meeting today

George,

Let's shoot for Friday, 3pm, perhaps at Teaism in Dupont?

Cheers,  
-rD

**From:** George Ivanov [mailto:[\(b\) \(6\)](#)]  
**Sent:** Wednesday, February 20, 2013 1:31 PM  
**To:** Edelman, R. David  
**Subject:** Re: Meeting today

Hi David,

I am free both tomorrow and on Friday from 3 -5.

Sincerely,  
George

On Wed, Feb 20, 2013 at 1:27 PM, Edelman, R. David (b) (6) wrote:

George,

I'm afraid I've been called across the street for a meeting on top of our coffee. What's your schedule like tomorrow/Friday? I am going to be in and out of the office but I bet we can nail down a time.

-rD

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy

ph: (202) (b) (6) | bb: (202) (b) (6)

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6)

(b) (6)

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**From:** Edelman, R. David  
**Sent:** Thursday, February 21, 2013 12:10 PM  
**To:** 'George Ivanov'  
**Subject:** RE: Meeting today

Great, see you then, and thanks again for your flexibility.

-----Original Message-----

**From:** George Ivanov (b) (6)  
**Sent:** Thursday, February 21, 2013 09:52 AM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: Meeting today

Sure thing. I can get there at around 3:10.

Sincerely,  
George

On Wed, Feb 20, 2013 at 10:22 PM, Edelman, R. David (b) (6) wrote:

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Let's shoot for Friday, 3pm, perhaps at Teatism in Dupont?

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Policy Analyst | Google Inc.  
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Washington, DC 20005

(b) (6)

(b) (6)

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**From:** Kalil, Thomas A.  
**Sent:** Thursday, February 21, 2013 2:36 PM  
**To:** (b) (6) Greenblatt, Jonathan  
**Cc:** (b) (6) FN-WHO-Innovation  
**Subject:** Re: FW: STEM and National Service

Sure - but can you have a dial-in # as a back-up?

Thanks!

Tom

---

**From:** Abigail Sassoon [mailto: (b) (6)]  
**Sent:** Thursday, February 21, 2013 02:32 PM  
**To:** Greenblatt, Jonathan  
**Cc:** Kalil, Thomas A.; John Kelly (b) (6) <(b) (6)> FN-WHO-Innovation  
**Subject:** Re: FW: STEM and National Service

Hello Jonathan,

Thank you for the information! I will let Brendan know to expect John as well.

Tom, if you are available from 11am-12pm EST, I am happy to set up a Google+ Hangout. Just let me know -- thanks!

Best,  
Abby

On Thu, Feb 21, 2013 at 11:00 AM, Greenblatt, Jonathan (b) (6) wrote:

Hi there. Thanks for your note. This detail is helpful.

Please note that I will be accompanied by John Kelly, a colleague from the Corporation for National and Community Service who is leading our work on Stem Corps.

Yes, I would like to include Tom Kalil. Eric cannot make it. Copying Tom to facilitate.

Thanks,

Jonathan

**From:** Abigail Sassoon [mailto:(b) (6)]  
**Sent:** Thursday, February 21, 2013 1:49 PM  
**To:** Greenblatt, Jonathan

**Subject:** Re: FW: STEM and National Service

Hello Jonathan,

I hope I find you well! Please find the logistics for your meeting with Jacquelline below. Also, would you like to include Tom Kalil or Eric Schwarz via Google+ Hangout? If so, I will reach out to them to see if they are available.

The address of Google's NYC office is 76 9th Avenue. There are several entrances to the building, but I think one of the easiest is at the corner of 8th and 16th. Once inside, you'll be directed to the Google lobby on the fourth floor. Please check in with the receptionist and have him or her ping Brendan Collins, who will come and get you. Please let me know if you have any other questions in the meantime. Thank you!

Best,

Abby

On Wed, Feb 20, 2013 at 2:15 PM, Greenblatt, Jonathan (b) (6) wrote:

Sounds good

**From:** Jacquelline Fuller [mailto:(b) (6)]  
**Sent:** Wednesday, February 20, 2013 5:13 PM  
**To:** Greenblatt, Jonathan; Abigail Sassoon  
**Cc:** Strautmanis, Michael; Covey, Francesca; FN-WHO-Innovation

**Subject:** Re: FW: STEM and National Service

Perfect. I'm copying in Abby who will share the logistical details on location and room.

On Wed, Feb 20, 2013 at 1:46 PM, Greenblatt, Jonathan (b) (6) wrote:

Hey there. Thanks for your note. 11-12 is perfect. I will plan on it. What's the street address?

Meanwhile, coincidentally, I met with Matthew Stepka and Johanna Shelton today. We had scheduled this lunch perhaps six weeks ago. Funny how this timing worked out.

FYI: I will bring John Kelly with me to this lunch. He is a senior official at the Corporation for National and Community Service that administers AmeriCorps and is lead on STEM Corps. He will be lead on follow-up work.

Look forward to connecting.

Best,

Jonathan

**From:** Jacqueline Fuller [mailto:(b) (6)]  
**Sent:** Wednesday, February 20, 2013 4:28 PM  
**To:** Greenblatt, Jonathan  
**Cc:** Strautmanis, Michael; Covey, Francesca  
**Subject:** Re: FW: STEM and National Service

Hi Jonathan,

Glad to be back in touch. Let's connect Friday morning in NYC. Is it convenient for you to come to the Google office in Chelsea, 9:30-10:30 or 11-12?

On Tue, Feb 19, 2013 at 2:03 PM, Greenblatt, Jonathan (b) (6) wrote:

Jackie

Hi there. Long time no talk. I don't think we have touched base since I took this job at the White House in late 2011. Nonetheless, I trust all is well.

Mike Strautmanis (cc'ed below) sent me this correspondence and I wanted to follow -up. I'm glad that you and Dave D. are excited about STEM Corps. It's a priority for the White House, a neat program with lots of opportunity and a potentially powerful public-private partnership where we would be delighted to engage Google.

I also saw the earlier exchange today with my friend Tom Kalil on the same topic. I want to pull all these strands together. Quick thoughts:

- (1) Attached is a short one-pager. Gives a short overview of the concept.
- (2) CNCS is looking for grant support for this program. I believe that Straut and Dave already discussed this prospect. Would be great to see what might be possible.
- (3) I am going to be in NYC this week on Fri, Feb 22. I understand that you will be in NYC, too. Can we find some time to sit down? I have availability around breakfast and then midday.

LMK whether we can carve out some time, ideally before 3pm. I will be hopping on a train at that time to get back to DC.

Thanks,

Jonathan

**From:** Jacqueline Fuller [mailto:(b) (6)]  
**Sent:** Wednesday, February 13, 2013 1:31 PM

**To:** Strautmanis, Michael  
**Subject:** Re: STEM and National Service

If you have something already drafted up, please send that over.

Happy to also jump on the phone so I can quickly figure out what arrows in our quiver we should mobilize: grants, engineers, volunteers, tech guidance etc.

On Wed, Feb 13, 2013 at 10:08 AM, Strautmanis, Michael (b) (6) wrote:

That's terrific.

What works best for you? Should I send you a brief memo first? Would you like to get on the phone first?

If it's phone, it would probably be best for me to connect with our policy lead – Jonathan Greenblatt.

**From:** Jacqueline Fuller [mailto:(b) (6)]  
**Sent:** Wednesday, February 13, 2013 1:04 PM  
**To:** Strautmanis, Michael  
**Subject:** Re: STEM and National Service

Thanks, David, moving you to bcc for now but will keep you updated.

Michael, I'm eager to hear more about the STEM initiative and how Google can get involved.

On Wed, Feb 13, 2013 at 9:52 AM, David Drummond (b) (6) wrote:

Hi Michael-

Great SOTU last night! Hope you are well.

Getting back to you on the topic we discussed. Introducing you to Jacqueline Fuller, who has managed many of our STEM investments, and is the right person to figure out how Google can help and to get the right folks in the room. Jacqueline, please keep me in the loop.

Best,

David

--

Jacqueline Fuller	Director Google Giving	(b) (6)		(b) (6)
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[Google Giving](#) now has a Google+ page. Add us to your circles for the latest information on giving!

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Jacqueline Fuller	Director Google Giving	(b) (6)		(b) (6)
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Abigail Sassoon | Assistant to Eric Chu, Jacquelline Fuller, and Anita Yuen | (b) (6) | 650



---

**From:** Kalil, Thomas A.  
**Sent:** Thursday, February 21, 2013 6:16 PM  
**To:** (b) (6)  
**Subject:** Re: FW: STEM and National Service

You can send it to this account.

---

**From:** Abigail Sassoon [mailto: (b) (6)]  
**Sent:** Thursday, February 21, 2013 02:39 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: FW: STEM and National Service

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Thanks!

Tom

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**Sent:** Thursday, February 21, 2013 02:32 PM  
**To:** Greenblatt, Jonathan  
**Cc:** Kalil, Thomas A.; John Kelly (b) (6) (b) (6) FN-WHO-Innovation  
**Subject:** Re: FW: STEM and National Service

Hello Jonathan,

Thank you for the information! I will let Brendan know to expect John as well.

Tom, if you are available from 11am-12pm EST, I am happy to set up a Google+ Hangout. Just let me know -- thanks!

Best,  
Abby

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Please note that I will be accompanied by John Kelly, a colleague from the Corporation for National and Community Service who is leading our work on Stem Corps.

Yes, I would like to include Tom Kalil. Eric cannot make it. Copying Tom to facilitate .

Thanks,

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**From:** Abigail Sassoon [mailto:(b) (6)]  
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**Cc:** Strautmanis, Michael; Covey, Francesca; FN-WHO-Innovation

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Look forward to connecting.

Best,

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Hi Jonathan,

Glad to be back in touch. Let's connect Friday morning in NYC. Is it convenient for you to come to the Google office in Chelsea, 9:30-10:30 or 11-12?

On Tue, Feb 19, 2013 at 2:03 PM, Greenblatt, Jonathan (b) (6) wrote:

Jackie

Hi there. Long time no talk. I don't think we have touched base since I took this job at the White House in late 2011. Nonetheless, I trust all is well.

Mike Strautmanis (cc'ed below) sent me this correspondence and I wanted to follow -up. I'm glad that you and Dave D. are excited about STEM Corps. It's a priority for the White House, a neat program with lots of opportunity and a potentially powerful public-private partnership where we would be delighted to engage Google.

I also saw the earlier exchange today with my friend Tom Kalil on the same topic. I want to pull all these strands together. Quick thoughts:

- (1) Attached is a short one-pager. Gives a short overview of the concept.
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LMK whether we can carve out some time, ideally before 3pm. I will be hopping on a train at that time to get back to DC.

Thanks,

Jonathan

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Happy to also jump on the phone so I can quickly figure out what arrows in our quiver we should mobilize: grants, engineers, volunteers, tech guidance etc.

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That's terrific.

What works best for you? Should I send you a brief memo first? Would you like to get on the phone first?

If it's phone, it would probably be best for me to connect with our policy lead – Jonathan Greenblatt.

**From:** Jacqueline Fuller [mailto:(b) (6)]  
**Sent:** Wednesday, February 13, 2013 1:04 PM

**To:** Strautmanis, Michael  
**Subject:** Re: STEM and National Service

Thanks, David, moving you to bcc for now but will keep you updated.

Michael, I'm eager to hear more about the STEM initiative and how Google can get involved.

On Wed, Feb 13, 2013 at 9:52 AM, David Drummond (b) (6) wrote:

Hi Michael-

Great SOTU last night! Hope you are well.

Getting back to you on the topic we discussed. Introducing you to Jacquelline Fuller, who has managed many of our STEM investments, and is the right person to figure out how Google can help and to get the right folks in the room. Jacquelline, please keep me in the loop.

Best,

David

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Jacquelline Fuller	Director Google Giving	(b) (6)	(b) (6)
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**From:** Kathy Cooper (b) (6)  
**Sent:** Tuesday, November 27, 2012 5:02 PM  
**To:** Kalil, Thomas A.  
**Cc:** Megan Smith; Astro Teller  
**Subject:** Solve for X: Feb 6-8, 2013 (SF Bay Area) - Invitation

Dear Tom,  
We are really excited that you will be joining us at



And you'll be in great company. We've invited an incredible group of accomplished scientists, thinkers, and visionaries.

They'll be ready to discuss, debate, and push world changing ideas forward. We hope you're ready to brainstorm about a wide range of moonshot ideas: artificial meat, quantum dots, plasma gasification, and digital fabrication (to name a few).

We will start with a reception at 5:30pm on the evening of February 6th, so we ask that you arrive sometime that afternoon. We also plan on doing an informal Show & Tell, so please consider bringing any artifacts or works in progress you'd like to share with the group. **Lastly, please make sure to [register here](#)**, and feel free to reach out if you have any questions. We look forward to seeing you in person soon.

Best,

Kathy, on behalf of Eric, Megan and Astro

# SOLVE FOR

A forum to encourage and amplify technology-based moonshot thinking and teamwork.

SAVE THE DATE

"Any sufficiently advanced technology is indistinguishable from magic."

—Arthur C. Clark

We invite you to join us on February 6-8, 2013 for **Solve for X**, an intimate event for a small group of exceptional scientists, entrepreneurs, and technologists, to discuss and debate audacious science and technology projects designed to radically improve the world.

We look forward to having you join us,

**Eric Schmidt, Megan Smith and Astro Teller**

[www.wesolveforx.com](http://www.wesolveforx.com)

## location

Cordevalle Resort  
One Cordevalle Club Drive  
San Martin, CA 95046

## accommodations

Hotel accommodations will be provided for attendees on Wednesday, February 6 – Thursday, February 8.

## schedule

Wednesday, February 6 –  
Friday, February 8, 2013  
Opening reception on Wednesday before dinner  
with closing remarks on Friday afternoon.\*

\* The schedule is still being finalized—more details to follow with formal invite in coming weeks  
This is an invitation-only event. Your invite is non-transferable

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**Sent:** Friday, February 22, 2013 12:06 AM  
**To:** (b) (6)  
**Subject:** Re: FW: STEM and National Service

Dear Abigail:

I didn't get it. Can you try sending it to (b) (6)

My # in CA is (b) (6)

Thanks!

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**From:** Hal Varian (b) (6)  
**Sent:** Thursday, November 29, 2012 2:16 PM  
**To:** Kalil, Thomas A.  
**Subject:** Fwd: Newsletter: GE Quests on Kaggle

Pretty interesting stuff...

----- Forwarded message -----

**From:** Anthony Goldbloom | Kaggle (b) (6)  
**Date:** Thu, Nov 29, 2012 at 10:25 AM  
**Subject:** Newsletter: GE Quests on Kaggle  
**To:** Hal (b) (6)

Announcing GE Industrial Internet Quests. New [BIG] contests in Aviation and Healthcare

Is this email not displaying correctly?  
[View it in your browser.](#)

All has been quiet on the Kaggle frontpage for the last few weeks, but now [ drumroll, dim lights, audience holds their breath in anticipation ] we are excited to share what we've been working on for the last month.

## GE Industrial Internet Quests

The Industrial Internet. The Internet of Things. What does it all mean? In a nutshell, it's internet-connected devices collecting data and communicating to make industries smarter. This data is then used to anticipate and avoid problems, instead of fixing things after the fact. General Electric, the maker of just about everything, is very interested in this area, so they're sponsoring a series of "Quests" on Kaggle. This is big, you guys.

Flight Quest and Hospital Quest were officially announced this morning at the GE Minds and Machines Conference in San Francisco, and now live on Kaggle at [www.gequest.com](http://www.gequest.com). The Quests will span several months and submissions will be reviewed and winners selected by evaluation metric for the Flight Quest and a panel of Healthcare experts for the Hospital Quest. There's some tweaks to the regular Kaggle comp format, so be sure to read the rules ( more rules ) and timelines carefully. Winners will receive cash rewards ( \$600,000 in prizes between the two Quests, with 1st place in Flight Phase 1 taking home 100K ) as well as the opportunity to have their submission turned into a working simulation, with the ultimate goal of creating an onboard

flight management application and hospital patient experience application, supported by GE.

## Also Launching in December...

For those looking for a way to give back this holiday season ( and get your work featured on [Visual.ly](#) , home of some of the best data viz on the internet), we have a Visualization contest launching next week for education NGO [Colorado Succeeds](#). The Challenge is to use 3 years of data released by the state of Colorado Department of Education to visually uncover trends in the Colorado public school system. As with any Kaggle viz contest, this is about more than just infographics. It's about diving deep into the data to uncover new insights using all the tools in the data science arsenal. There's 5K in prizes for the winners, and all submissions will be evaluated by the Visual.ly team and qualified visualizers will be given admission into the Visual.ly Marketplace for future work. We'll share more details next week when the contest officially launches.

## Recent Results

Now for a rundown of the recent competition results. The recruiting comp [Facebook II](#) has just ended, but the leaderboard is still in 'fog of war' mode as Facebook reaches out to the top finishers to start setting up interviews for Data Engineer positions. Earlier in November, the [US Census Return Rate](#) competition came to a close. First place goes to [fodroczy](#), followed by [Not a US Citizen](#) (very cute, Alec), and [Yetiman](#) in 3rd ( with a [great forum writeup](#) on his techniques ). Finally, in case you missed in, [hard-core deep learning](#) with GPUs carried the day in the Merck competition, and has been widely written -up, including a recent piece at the top of the [New York Times](#) Science section.

That's all for today. Let the Quests begin!

*PS - To Sergey ( you know who you are ). Just in case you were wondering about GE.*



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Kaggle  
188 King St #502



San Francisco, CA 94107

Add us to your address book

[unsubscribe from this list](#) | [update subscription preferences](#) | [view email in browser](#)

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**From:** George Ivanov (b) (6)  
**Sent:** Friday, November 30, 2012 11:36 AM  
**To:** Edelman, R. David  
**Subject:** Re: On my way

I'm running late too. Ross should be in front when you get in.

On Nov 30, 2012 11:32 AM, "Edelman, R. David" (b) (6) wrote:  
There in 5

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**From:** Kalil, Thomas A.  
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All set - will join Hangout at 11.

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**Subject:** Re: FW: STEM and National Service

Yes, I will send out conference information as a back-up. Do you have a Google account, or would you like me to send the Hangout invitation to this email address?

Thank you!  
Abby

On Thu, Feb 21, 2013 at 11:35 AM, Kalil, Thomas A. (b) (6) wrote:  
Sure - but can you have a dial-in # as a back-up?

Thanks!

Tom

---

**From:** Abigail Sassoon [mailto:(b) (6)]  
**Sent:** Thursday, February 21, 2013 02:32 PM  
**To:** Greenblatt, Jonathan  
**Cc:** Kalil, Thomas A.; John Kelly (b) (6) (b) (6) FN-WHO-Innovation  
**Subject:** Re: FW: STEM and National Service

Hello Jonathan,

Thank you for the information! I will let Brendan know to expect John as well.

Tom, if you are available from 11am-12pm EST, I am happy to set up a Google+ Hangout. Just let me know -- thanks!

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Abby

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Hi there. Thanks for your note. This detail is helpful.

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Thanks,

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**From:** Jacqueline Fuller [mailto:(b) (6)]  
**Sent:** Wednesday, February 20, 2013 5:13 PM  
**To:** Greenblatt, Jonathan; Abigail Sassoon  
**Cc:** Strautmanis, Michael; Covey, Francesca; FN-WHO-Innovation

**Subject:** Re: FW: STEM and National Service

Perfect. I'm copying in Abby who will share the logistical details on location and room.

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Look forward to connecting.

Best,

Jonathan

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- (3) I am going to be in NYC this week on Fri, Feb 22. I understand that you will be in NYC, too. Can we find some time to sit down? I have availability around breakfast and then midday.

LMK whether we can carve out some time, ideally before 3pm. I will be hopping on a train at that time to get back to DC.

Thanks,

Jonathan

**From:** Jacquelline Fuller [mailto:(b) (6)]  
**Sent:** Wednesday, February 13, 2013 1:31 PM

**To:** Strautmanis, Michael  
**Subject:** Re: STEM and National Service

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On Wed, Feb 13, 2013 at 10:08 AM, Strautmanis, Michael (b) (6) wrote:

That's terrific.

What works best for you? Should I send you a brief memo first? Would you like to get on the phone first?

If it's phone, it would probably be best for me to connect with our policy lead – Jonathan Greenblatt.

**From:** Jacquelline Fuller [mailto:(b) (6)]  
**Sent:** Wednesday, February 13, 2013 1:04 PM  
**To:** Strautmanis, Michael  
**Subject:** Re: STEM and National Service



Thanks, David, moving you to bcc for now but will keep you updated.

Michael, I'm eager to hear more about the STEM initiative and how Google can get involved.

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Getting back to you on the topic we discussed. Introducing you to Jacqueline Fuller, who has managed many of our STEM investments, and is the right person to figure out how Google can help and to get the right folks in the room. Jacqueline, please keep me in the loop.

Best,

David

--

Jacqueline Fuller	Director Google Giving	(b) (6)	(b) (6)
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[Google Giving](#) now has a Google+ page. Add us to your circles for the latest information on giving!

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Jacquelline Fuller	Director Google Giving	(b) (6)	(b) (6)
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Abigail Sassoon | Assistant to Eric Chu, Jacqueline Fuller, and Anita Yuen (b) (6) | 650

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Abigail Sassoon | Assistant to Eric Chu, Jacqueline Fuller, and Anita Yuen (b) (6) | 650

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Friday, November 30, 2012 1:49 PM  
**To:** Edelman, R. David  
**Subject:** Re: My contact details

great to meet you as well -- i didn't know we shared a name, and i suppose i should be angry that you found it so distasteful you relegated it to a mere initial.

let's be sure to catch up again in dubai -- i arrive sunday morning and unlike you, am there for the d u r a t i o n... unfortunately

rGerard

On Fri, Nov 30, 2012 at 1:43 PM, Edelman, R. David (b) (6) wrote:

Ross,

Great seeing you today. My contact details are below – I'll have the BB with me on the ground. Please don't hesitate to reach out, and see you in Dubai.

Cheers,

-rD

R. David Edelman

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**Ross LaJeunesse**  
Global Head of Free Expression and International Relations  
Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Wednesday, November 28, 2012 3:09 PM  
**To:** Edelman, R. David; George Ivanov  
**Subject:** Re: Ross + Johanna + rD?

David - i have a family emergency and will need to attend a funeral on Friday so i wanted to let you know that George Ivanov (copied) will accompany Ross and meet with you at 11:30 at Teism on Friday.

good luck the next 2 weeks! don't sell out the Internet (literally)!

On Tue, Nov 20, 2012 at 10:06 PM, Edelman, R. David (b) (6) wrote:  
Perfect.

---

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 10:05 PM

**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

great - it will be me and Ross

On Tue, Nov 20, 2012 at 9:24 PM, Edelman, R. David (b) (6) wrote:  
See you then!

---

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 07:23 PM

**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

great - let's go with 11:30 at Teism.

On Tue, Nov 20, 2012 at 7:15 PM, Edelman, R. David (b) (6) wrote:

Much...if it works for you.

-rD

---

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, November 20, 2012 6:54 PM

**To:** Edelman, R. David  
**Subject:** Re: Ross + Johanna + rD?

On Tue, Nov 20, 2012 at 6:22 PM, Edelman, R. David (b) (6) wrote:

$$-r_D$$

On Tue, Nov 20, 2012 at 1:36 PM, Edelman, R. David (b) (6) wrote:

-rD

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6).

--

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(b) (6).



---

**From:** Edelman, R. David  
**Sent:** Friday, February 22, 2013 3:01 PM  
**To:** ((b) (6))  
**Subject:** Venue

George -- I find my prior running long and am across town; any chance we might switch venues to Starbucks on Wisconsin @ S? Or is that inconveniently far, in which case we should bump to a bit later?

---

**From:** Kalil, Thomas A.  
**Sent:** Saturday, February 23, 2013 12:32 PM  
**To:** Abigail Sassoon  
**Subject:** RE: FW: STEM and National Service

Thanks for your help!

Can you send me the name and the e-mail of the gentleman who was on the hangout from the West Coast?

Thanks!

Tom

**From:** Abigail Sassoon [mailto: (b) (6)]  
**Sent:** Friday, February 22, 2013 10:54 AM  
**To:** Kalil, Thomas A.  
**Subject:** Re: FW: STEM and National Service

Great -- thank you! Happy Friday!

On Fri, Feb 22, 2013 at 7:51 AM, Kalil, Thomas A. (b) (6) wrote:  
All set - will join Hangout at 11.

---

**From:** Abigail Sassoon [mailto: (b) (6)]  
**Sent:** Friday, February 22, 2013 09:46 AM

**To:** Kalil, Thomas A.  
**Subject:** Re: FW: STEM and National Service

Hello Tom,

I'm sorry it didn't work for the first email address; I just resent the invitation to the new email you provided. Hopefully it works, but please let me know if you don't receive it.

If that doesn't work, we can try one more time when the Hangout begins, and then we can call you on your phone. Thank you!

Best,  
Abby

On Thu, Feb 21, 2013 at 9:06 PM, Kalil, Thomas A. (b) (6) wrote:  
Dear Abigail:

I didn't get it. Can you try sending it to (b) (6).

My # in CA is (b) (6)

Thanks!

---

**From:** Abigail Sassoon [mailto:(b) (6)]  
**Sent:** Thursday, February 21, 2013 06:54 PM

**To:** Kalil, Thomas A.  
**Subject:** Re: FW: STEM and National Service

Great, thank you! I just sent you a Hangout invitation; please let me know if you didn't receive it.

Also, if joining the Hangout via video doesn't work, we can actually add you via phone. If you try and are unable to connect, please email me or call me at (b) (6) and we will bring you into the Hangout via phone instead. What phone number is best to reach you at in case this happens?

Thanks!

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You can send it to this account.

---

**From:** Abigail Sassoon [mailto:(b) (6)]  
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**Subject:** Re: FW: STEM and National Service

Yes, I will send out conference information as a back-up. Do you have a Google account, or would you like me to send the Hangout invitation to this email address?

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**Sent:** Thursday, February 21, 2013 02:32 PM

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David



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Abigail Sassoon | Assistant to Eric Chu, Jacqueline Fuller, and Anita Yuen (b) (6) | 650

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Abigail Sassoon | Assistant to Eric Chu, Jacqueline Fuller, and Anita Yuen (b) (6) | 650

---

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Friday, November 30, 2012 3:06 PM  
**To:** Edelman, R. David  
**Subject:** Re: You're Invited: White House Holiday Tour

hi david

thanks so much for this invitation! not to be a jerk about it, but any chance i could bring my 4 year old goddaughter along -- she is actually a huge fan of the president and his daughters (not sure how that happens with a 4 year old) and would love to visit their home

thanks  
ross

On Fri, Nov 30, 2012 at 2:24 PM, Edelman, R. David (b) (6) wrote:



## THE WHITE HOUSE

Washington

Dear Friends,

Every holiday season, the White House becomes a winter wonderland of holiday decorations, with over a dozen Christmas trees and all other manner of festive trimming. The East Wing, the White House's more formal section with such features as the Green, Red, Blue, East, and Diplomatic Reception Rooms, is a particular sight to behold.

**It is my pleasure to invite you to join us this holiday season to be my guest for a tour of the East Wing's Holiday Decorations.** As long as there is availability, spouses and children are welcome as well.

**We are presently working on possible dates for the tour,** and will have a final list of options next Wednesday. They will take place in the range of Dec. 12 -22, and I will endeavor to have at least two options available.

*If you are interested* in attending during that timeframe (without commitment and so that we can place the initial request), please **fill out the attached form for all guests, and replying to this email, with it attached.** Unfortunately I cannot register without this information in full, but will hopefully return word with multiple dates, depending on the group's size.

*Notes in filling out the attached:*

- Please note that the Date of Birth MUST be entered in the format MM-DD-YYYY
- Non-US Citizens, please leave the “ Social Security Number” field blank.
- Please consult the second TAB of the spreadsheet for the two -letter code for your country of birth.

Early though it may be, I wish you a warm holiday season, and look forward to seeing you in the coming weeks.

All the very best,

-David

R. David Edelman

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

--  
**Ross LaJeunesse**  
Global Head of Free Expression and International Relations  
Google Inc.

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---

**From:** Edelman, R. David  
**Sent:** Friday, February 22, 2013 3:20 PM  
**To:** (b) (6)  
**Subject:** Re: Venue

Here in line

----- Original Message -----

**From:** Edelman, R. David  
**Sent:** Friday, February 22, 2013 03:00 PM  
**To:** (b) (6) (b) (6)  
**Subject:** Venue

George -- I find my prior running long and am across town; any chance we might switch venues to Starbucks on Wisconsin @ S? Or is that inconveniently far, in which case we should bump to a bit later?

---

**From:** Kalil, Thomas A.  
**Sent:** Saturday, February 23, 2013 8:55 PM  
**To:** (b) (6)  
**Subject:** ARPA-ED

Dear Chris:

Great to have a chance to chat – let me know what you want to catch up.

Here's a link to the Virtual Learning at National Scale project I mentioned. Our next step is to recruit a Presidential Innovation Fellow to work on it.

<http://www.nsf.gov/pubs/2013/ehr13001/ehr13001.pdf>

Here is some more info on ARPA-ED  
<http://www.ed.gov/technology/arpa-ed>

Here are some of the things I've written on the importance of Making.

[http://www.slate.com/articles/technology/future\\_tense/2012/06/every\\_child\\_a\\_maker\\_how\\_the\\_government\\_and\\_private\\_sector\\_can\\_turn\\_kids\\_on\\_to\\_science\\_and\\_engineering\\_through\\_making\\_.html](http://www.slate.com/articles/technology/future_tense/2012/06/every_child_a_maker_how_the_government_and_private_sector_can_turn_kids_on_to_science_and_engineering_through_making_.html)

<http://radar.oreilly.com/2010/10/innovation-education-and-the-m.html>

<http://www.whitehouse.gov/blog/2012/02/28/making-makers-georgia-tech>

<http://www.whitehouse.gov/blog/2012/12/12/making-makers-los-angeles>

<http://makered.org/>

---

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Friday, November 30, 2012 4:12 PM  
**To:** Edelman, R. David  
**Subject:** Re: You're Invited: White House Holiday Tour

excellent, thanks -- we look forward to it!

On Fri, Nov 30, 2012 at 3:33 PM, Edelman, R. David (b) (6) wrote:  
Absolutely!

---

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Friday, November 30, 2012 03:05 PM  
**To:** Edelman, R. David  
**Subject:** Re: You're Invited: White House Holiday Tour

hi david

thanks so much for this invitation! not to be a jerk about it, but any chance i could bring my 4 year old goddaughter along -- she is actually a huge fan of the president and his daughters (not sure how that happens with a 4 year old) and would love to visit their home

thanks  
ross

On Fri, Nov 30, 2012 at 2:24 PM, Edelman, R. David (b) (6) wrote:



## THE WHITE HOUSE

Washington

Dear Friends,

Every holiday season, the White House becomes a winter wonderland of holiday decorations, with over a dozen Christmas trees and all other manner of festive trimming. The East Wing, the White House's more formal section with such features as the Green, Red, Blue, East, and Diplomatic Reception Rooms, is a particular sight to behold.





--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations

Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

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**Sent:** Monday, February 25, 2013 12:14 PM  
**To:** Zinnia Orosa  
**Cc:** Graubard, Vivian  
**Subject:** RE: Follow-up/ Visiting DC

March 21 @ 3:00 pm will work.

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Will Todd be available on any of these dates (30 min. phone call):

Mar 20, 12-2 pm ET

Mar 21, 3-5 pm ET

Mar 22, bet. 12-5 pm ET

Thank you and regards,  
Zinnia

Zinnia Orosa	Executive Assistant to Matthew Stepka, VP <a href="http://google.org">google.org</a>	(b) (6)	1-
(b) (6)			

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(b) (6)

If, for some reason, she is unresponsive, please email Todd. He'll see the hold on his calendar and be able to give you a call in number to reach him at.

Thanks!

Vivian

**From:** Zinnia Orosa [mailto:(b) (6)]  
**Sent:** Thursday, February 21, 2013 7:42 PM  
**To:** Graubard, Vivian  
**Cc:** Matthew Stepka

**Subject:** Re: Follow-up/ Visiting DC

Hi Vivian,

No problem. Can we please hold on cal for now: Fri. 3/1 @ 4 pm ET? We will confirm with you by Mon.

Thank you,

Zinnia

Zinnia Orosa	Executive Assistant to Matthew Stepka, VP <a href="http://google.org">google.org</a>	(b) (6)	1-
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Vivian

**From:** Matthew Stepka [mailto:(b) (6)]

**Sent:** Wednesday, February 20, 2013 11:42 PM

**To:** Park, Todd

**Cc:** Graubard, Vivian; Zinnia Orosa

**Subject:** Re: Follow-up/ Visiting DC

Todd,

Thanks for getting back to me. I'm in town tomorrow and free from 4 -5pm if that happens to work for you. Otherwise, let's definitely find a time to catch up over the phone soon.

Cheers,

Matthew.

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Todd

**From:** Matthew Stepka [mailto:(b) (6)]

**Sent:** Tuesday, February 12, 2013 9:59 PM

**To:** Park, Todd

**Subject:** Follow-up/ Visiting DC

Todd,

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In the meantime, I am having lunch with Jonathan Greenblatt next Wednesday. If you have a free moment in the afternoon it would be great to meet in person.

Cheers,

Matthew

--

**Matthew Stepka** | Vice President, Disruptive Technology for Social Impact | **Google**  
1600 Amphitheatre Parkway | Mountain View, California 94043 | (b) (6)

This email may be confidential or privileged. If you received this communication by mistake, please do not forward it to anyone else, erase all copies and attachments, and let me know that it went to the wrong person. Please consider the environment before printing this e-mail.

---

**From:** Kalil, Thomas A.  
**Sent:** Saturday, February 23, 2013 9:14 PM  
**To:** (b) (6)  
**Subject:** ARPA-ED  
**Attachments:** engage-goals.docx

Dear Chris:

Here's a slide deck on a DARPA project that created a "digital tutor" for IT systems administration. It is allowing new Navy recruits to outperform Navy experts with 7+ years of experience on real -world trouble tickets.

[http://www.adlnet.gov/wp-content/uploads/2012/08/Fletcher\\_DF\\_DT\\_Brief\\_iFest2012.pdf](http://www.adlnet.gov/wp-content/uploads/2012/08/Fletcher_DF_DT_Brief_iFest2012.pdf)

DARPA has also been funding the Center for Game Science.

See <http://www.centerforgamescience.org/site/games> and the attached.

Best,

Tom

# Turning Education into Data Driven Science: Game-based Experimentation and Assessment Platform for Discovery of Optimal Learning Pathways

---

*Zoran Popovic*  
*University of Washington*

## **Larger Question**

Fundamental problems in the current early math education are the primary roadblocks standing in the way of improving STEM pipeline in the US and worldwide and play a fundamental role in both college readiness and interest in STEM disciplines when entering college. If the fundamental building blocks of early mathematical concepts are not established, it is practically impossible to advance through algebra and later in science. In fact, studies show that no matter how good the subsequent math and science instruction may be, it simply cannot be effective without the mathematical foundations in place. Recent research also finds that most potential students of STEM disciplines are lost by middle school. For example, the 2008 report by the National Mathematics Advisory Panel found that understanding of fractions is the key deficiency bottleneck that is effectively blocking advancement of algebra, and early science.

## **What we will do**

We propose to develop a framework for robust statistical analysis of multiple pathways for conceptual understanding of key stumbling blocks in the STEM pipeline. Our framework will gather large number of student subjects, and provide detailed and nuanced assessment of the efficacy of each proposed pathway, not just for students in general, but for each individual student. To be successful such experimentation and assessment platform needs to gather large number of students and keep them engaged on key problems for an extended period of time. It also needs to be easily distributed worldwide, and accessible in both formal and informal school settings. Most importantly the platform needs to be flexible enough to rapidly vary between multiple hypotheses on learning pathways and automatically adapt for every type of learner. A game based platform is uniquely capable of meeting all these requirements.

We will develop a massively-multiplayer assessment and experimentation platform with wide adoption, embedded rapid randomized trials, and full detailed logging of each student's reasoning as they reason about STEM concepts.

This project is a union of game development team, world-class learning scientist' team, early-math education experts and industry game design experts with a common goal to design a compelling game framework with learning assessment as the primary objective. Key aspects of this framework include:

- state-of-the-art game with expertise from world-renowned game experts causing students to naturally gravitate towards the learning environment
- theory of expertise based learning through parametrically defined levels
- online multi-player game environment to promote and study social learning, and mixed -age tutoring
- accessible anywhere and anytime through any web browser even on mobile devices
- built-in assessment of game play that adapts the game experience for each student
- full tracking and replay of every play move within the game
  - used for visual analysis and trend discovery in game play and learning
  - data mining to answer learning research questions and guide further game design

## **Methodology**

This novel game and learning framework design will enable a comprehensive assessment of key concept understanding through five distinct forms of analyses:



- synchronous learning hypothesis trials (which will enable us to determine the optimal learning concept progression by experimenting with multiple possibilities on the fly within the game. Each student will have slightly different experience, thus creating rapid randomized trials. Specific assessment levels will be embedded within gameplay. With this approach we can do typical multi-year randomized trials study in just two months with much larger population of students.
- quantitative (through number of standard in-school testing mechanisms, and testing the effect of game play). We will have pre and post game written test correlated with play effects. In school settings we will perform a number of preparation for future learning tests to measure the power of game as promoter of greater success of traditional learning.
- ethnographic (through observing the ability to solve situational problems within the game environment) and the effect on the overall perception of STEM topics.
- in-game adaptation (by presenting the game challenges at exactly the appropriate level for each student based on the history of play, and data on students with same interaction patterns and thought processes)
- Learning transfer (through seeing whether the learned concepts can be applied to different problems that require them such as algebra problems, or does doing well in the game translates into doing well on the school test)

The studies will be performed with the Washington, Texas and North Carolina School system (in-school learning), K12.com virtual charter schools (50,000 out-of-school, and home-school learning), and Washington community colleges for (remedial adult learning), totaling around **hundred thousand** students (the project can always be helped with more sources of students).

### Hypothesis and Specific Goals

Using these multi-pronged analysis tools allows us to scientifically and rapidly answer a number of key questions about the optimal learning methodology. We first plan to focus on pre-algebra bottlenecks (e.g. fractions, proportional reasoning) but subsequently extend the framework to other bottlenecks. Here we list some of the questions we are initially focusing on:

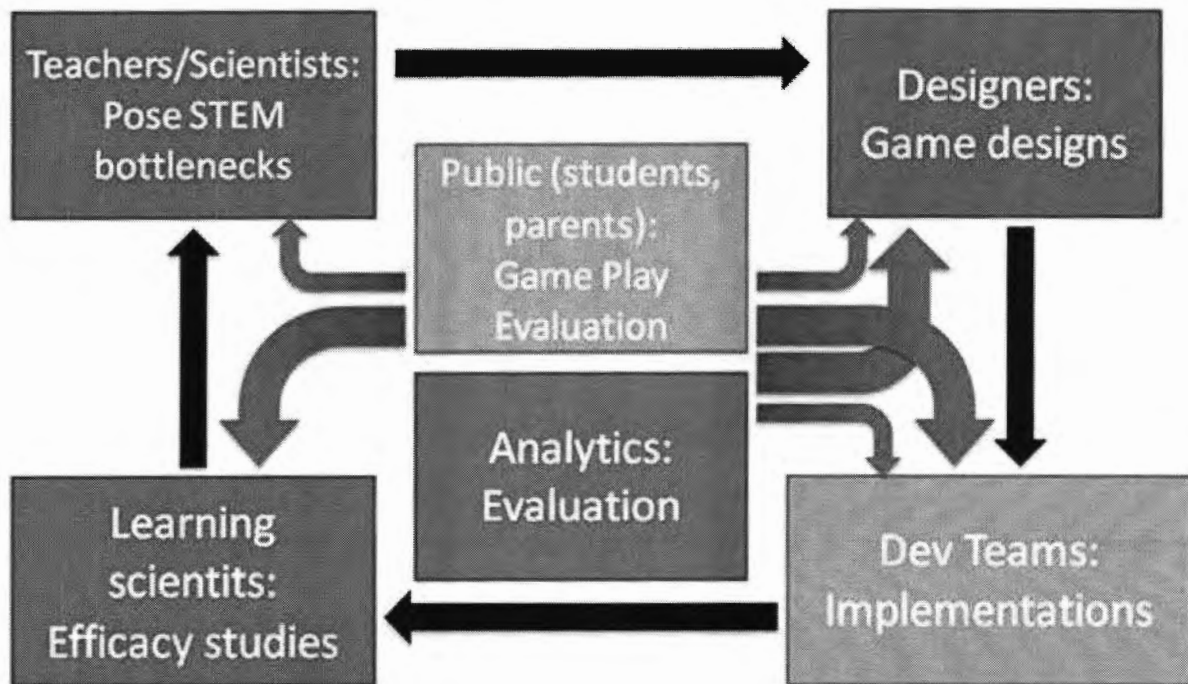
- Can game-based learning qualitatively and quantitatively improve conceptual understanding as a standalone informal learning tool, or as an augmentation to the existing methods.
- What is the sequence of concepts that promote functional understanding of a concept? How does measurement pathway compare to partitioning pathway towards ultimate understanding of the key concept? Does introduction to both concepts improve outcomes compared to presenting each one individually?
- How does the outcome of specific pathways vary for differences in gender, socioeconomics, culture, prerequisite background, learning styles?
- To which extent can an effective game-embedded curriculum augment, and compensate the standard in-school learning practices?
- What is the amplification effect of social learning environment provided by the multiplayer game?
- What effect does game play learning have on the perception of "coolness" of mathematics (a key question for enabling the STEM pipeline)?

Our mass-scale quantitative approach will be able to provide detailed data-based conclusions to these and similar questions. Once the framework has matured with the pre-algebra bottlenecks, we will be extending it to higher level concepts through algebra, all the way through biochemistry and the possibility of pre-college courses based on our success with foldit.

### Longer term goal

Our longer term goal is to develop a primary point of free service for all data-driven assessment-evaluated game content around STEM topics. Our analytics based process of discovering learning processes through rapid experimentation will be the basis required of all games that we service, but the development of the games will be open to everyone. For each game we distribute, educators and teachers will be able to see all performed studies and publications related to each game. Furthermore they will have an available teachers portal, where they will have all continuum based assessments of all STEM concepts, and even be able to alter the game experience for each child based on the perceived areas of focus, or individual stumbling blocks.

The game development itself will be a large collaborative social network with assessment measures at each step. The key aspect of this network is that it can attract a diverse set of expertise required to pull a successful game including teachers with a great effective idea, game designers with a sense of what children would like, developers to enable minimal technological requirements for deployment, learning scientists for designing test of conceptual understanding, etc . The metrics based process ensures that neither fun nor measured learning is sacrificed in the process. All games produced with this process will be freely distributed and connected together through incentive structure of our STEM game world.



---

**From:** Mielke, Dawn M.  
**Sent:** Monday, February 25, 2013 1:56 PM  
**To:** Zinnia Orosa  
**Subject:** RE: Follow-up/ Visiting DC

What number should he call?

**From:** Zinnia Orosa [mailto: (b) (6)]  
**Sent:** Monday, February 25, 2013 12:32 PM  
**To:** Mielke, Dawn M.  
**Cc:** Graubard, Vivian  
**Subject:** Re: Follow-up/ Visiting DC

Great; I've booked on Matthew's cal. I will confirm as we get closer to the date.

Thanks Dawn!  
Zinnia

Zinnia Orosa	Executive Assistant to Matthew Stepka, VP <a href="http://google.org">google.org</a>	(b) (6)	1-
(b) (6)			

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**Sent:** Wednesday, February 20, 2013 11:42 PM

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**Cc:** Graubard, Vivian; Zinnia Orosa

**Subject:** Re: Follow-up/ Visiting DC

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Matthew.

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Matthew

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**Matthew Stepka** | Vice President, Disruptive Technology for Social Impact | **Google**  
1600 Amphitheatre Parkway | Mountain View, California 94043 | (b) (6)

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**From:** Stebbins, Michael J.  
**Sent:** Monday, February 25, 2013 5:58 PM  
**To:** 'George Ivanov'; Sinai, Nick  
**Cc:** (b) (6)  
**Subject:** RE: Mutual Intro

Thanks! Absolutely. How are your Thursday and Friday afternoons looking?

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 5:43 PM  
**To:** Sinai, Nick  
**Cc:** (b) (6); Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

Hello Nick and Mike,

We just issued a [blog post](#) regarding Friday's memorandum. This is a great step forward and we would be interested in learning about any related federal initiatives that might be in the works. Mike, would you have time for a quick call later this week?

Sincerely,  
George

On Wed, Nov 21, 2012 at 4:11 PM, Sinai, Nick (b) (6) wrote:  
Mike Stebbins is point at OSTP for open access to research publications

George Ivanov and Johanna Shelton are at Google, in the DC office

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)



---

**From:** Stebbins, Michael J.  
**Sent:** Monday, March 04, 2013 7:28 AM  
**To:** (b) (6)  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

Dear George,  
How is this week looking for you?  
Regards,  
Mike

---

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 06:03 PM  
**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6) (b) (6)  
**Subject:** Re: Mutual Intro

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Washington, DC 20005

(b) (6) (b) (6)

---

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Tuesday, December 04, 2012 7:05 AM  
**To:** Marilyn Cade  
**Cc:** (b) (6); Manu Bhardwaj; Edelman, R. David  
**Subject:** Re: Azerbaijan update, request for brief meeting tomorrow

thanks marilyn -- any intell on the key subjects, beyond the fact they don't support our position on ROA? thanks!

On Tue, Dec 4, 2012 at 3:59 PM, Marilyn Cade (b) (6) wrote:

Initial contact and discussion:

AZE: 4 participants here now. Head of Delegation leaves tomorrow. Minister comes next week.

Azerbaijan has a strong interest in having a high level [and brief] interaction with Am. Kramer/Mr. Beaird tomorrow, before the Head of Delegation leaves.

They would welcome a longer meeting with the Am. Kramer and Verveer next week, when the Minister is arrived.

Meeting: 20 min /tomorrow a.m. - informal -- and it can be actually at the venue, just before the session begins or at the coffee break.

Purpose: - interested in sharing high level exchange of views on priorities. Will also be helpful in consultations at home with Minister in preparation for next week's work.

Deputy Head of Delegation will be here for full two weeks.

Head of Delegation: Dr. Ilham A. Mammadov, Deputy Minister, Ministry of Comms and Information Technology - leaves tomorrow afternoon.

Two additional participants:

Deputy Head of Del: Rufat A. Taghizadeh, Ministry, Dept of International Relations and Cooperation with non governmental institutions

Next Week: Meeting between Am. Kramer./Dick Beird [Am. Verveer if available] and Minister Ali Abbasov and delegation at that time, including Deputy Head - with focus on issues at that time.

Rationale for tomorrow brief meeting: This is not going to result in concrete support on ROA/OA at this time. However, Azerbaijan signed a MOU with US during the IGF, only two weeks ago, and is inclined to have a very high interest in the positive visibility of their 'stepping up' to a more liberalized approach on telecoms, Broadband, etc. This meeting is focused on ensuring that they are prepared to be allies in addressing some of the tougher topics.

#### BACKGROUND OF RELEVANCE:

Minister Abbasov was the host for IGF 2012, and his deputy Minister, Elmir Valizada, was of course, overall coordinator, and is on the IGF Multistakeholder Advisory Group (MAG), but the Minister personally was heavily invested in the hosting and success of IGF. Am. Verveer, Kramer, and Dick Beird, and others from the US Govt, including NTIA's Strickling, Alexander also interacted with the Minister during IGF. Of other general interest, a reminder that Azerbaijan is heavily invested in the TASIM - Trans-Eurasian Information Superhighway Project.

If Ambassador Kramer cannot make a meeting tomorrow, can I ask to have Ambassador Verveer and Dick to take the meeting tomorrow, and the Minister with Am. Kramer and Dick Beird /others can be organized for next week.

The head of Delegation has very limited English, but Rufat provides the interpretation.

Marilyn Cade

**From** (b) (6) [mailto: (b) (6)] **On Behalf Of** Ross LaJeunesse  
**Sent:** Tuesday, December 04, 2012 12:10 AM  
**To:** Kaufman, Bradford A. (HQ-CG000); wcit2012-external  
**Subject:** hi asia team --

you should have all received the note from manu below -- could you please enter this info for your countries in the attached doc -- OR if you don't have access, please email brad and myself directly with this info?

ASIA TEAM POSITION TRACKER

thanks!

ross

----- Forwarded message -----

From: **Bhardwaj, Manu** (b) (6)

Date: Tue, Dec 4, 2012 at 9:04 AM

Subject: ROA/OA

To: (b) (6) (b) (6)

US DEL:

Regional co-chairs are asked to aggregate country views on ROA/OA by 5PM today for discussion at the full delegation meeting later this evening.

--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations

Google Inc.

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**From:** Stebbins, Michael J.  
**Sent:** Tuesday, March 12, 2013 5:17 PM  
**To:** 'George Ivanov'  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** RE: Mutual Intro

Dear George,

We just heard from Eric Schmidt about the interest in having Google Scholar play a role in the archiving. Do you have time to talk this week?

Regards,  
Mike

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 6:03 PM  
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--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)



---

**From:** Vint Cerf (b) (6)  
**Sent:** Tuesday, December 04, 2012 9:58 AM  
**To:** Holdren, John P.  
**Subject:** wednesday fiscal cliff call

John,

I can't make it (speaking engagement in LA area) but I am glad you are doing this.

vint

---

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Friday, November 30, 2012 4:15 PM  
**To:** Edelman, R. David  
**Subject:** Re: You're Invited: White House Holiday Tour  
**Attachments:** lajeunesse tour request.xls

thanks again, david. here is the completed form

ross

On Fri, Nov 30, 2012 at 2:24 PM, Edelman, R. David (b) (6) wrote:



## THE WHITE HOUSE

Washington

Dear Friends,

Every holiday season, the White House becomes a winter wonderland of holiday decorations, with over a dozen Christmas trees and all other manner of festive trimming. The East Wing, the White House's more formal section with such features as the Green, Red, Blue, East, and Diplomatic Reception Rooms, is a particular sight to behold.

**It is my pleasure to invite you to join us this holiday season to be my guest for a tour of the East Wing's Holiday Decorations.** As long as there is availability, spouses and children are welcome as well.

**We are presently working on possible dates for the tour,** and will have a final list of options next Wednesday. They will take place in the range of Dec. 12 -22, and I will endeavor to have at least two options available.

*If you are interested* in attending during that timeframe (without commitment and so that we can place the initial request), please **fill out the attached form for all guests, and replying to this email, with it attached.** Unfortunately I cannot register without this information in full, but will hopefully return word with multiple dates, depending on the group's size.

*Notes in filling out the attached:*

- Please note that the Date of Birth MUST be entered in the format MM-DD-YYYY
- Non-US Citizens, please leave the “Social Security Number” field blank.
- Please consult the second TAB of the spreadsheet for the two -letter code for your country of birth.

Early though it may be, I wish you a warm holiday season, and look forward to seeing you in the coming weeks.

All the very best,

-David

R. David Edelman

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

—

## Ross LaJeunesse

Global Head of Free Expression and International Relations  
Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

---

**From:** Stebbins, Michael J.  
**Sent:** Tuesday, March 12, 2013 10:14 PM  
**To:** 'George Ivanov'  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** RE: Mutual Intro

Sure. What number shall I call you at?

Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

**From:** George Ivano (b) (6)  
**Sent:** Tuesday, March 12, 2013 08:46 PM Eastern Standard Time  
**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

Hi Mike,

Would you be available for a quick call tomorrow at 5 pm?

Sincerely,  
George

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Regards,

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**Cc:** Sinai, Nick (b) (6)

**Subject:** Re: Mutual Intro

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Thanks! Absolutely. How are your Thursday and Friday afternoons looking?

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 5:43 PM  
**To:** Sinai, Nick  
**Cc:** (b) (6) Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

Hello Nick and Mike,

We just issued a [blog post](#) regarding Friday's memorandum. This is a great step forward and we would be interested in learning about any related federal initiatives that might be in the works. Mike, would you have time for a quick call later this week?

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Mike Stebbins is point at OSTP for open access to research publications

George Ivanov and Johanna Shelton are at Google, in the DC office

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George Ivanov

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(b) (6)

---

**From:** Stebbins, Michael J.  
**Sent:** Wednesday, March 13, 2013 8:54 AM  
**To:** 'Anurag Acharya'; Kalil, Thomas A.  
**Subject:** RE: scientific journals

Dear Anurag,

Thank you for reaching out. It sounds like there might be some excellent opportunities to work together. What is your availability this week and next?

Kind Regards,  
Mike

**From:** Anurag Acharya [mailto: (b) (6)]  
**Sent:** Wednesday, March 13, 2013 12:47 AM  
**To:** Kalil, Thomas A.; Stebbins, Michael J.  
**Subject:** Fwd: scientific journals

Dear Tom & Mike: I am the creator of Google Scholar. I am following up on Eric's message to John Holdren.

The OSTP public access initiative is a fantastic effort that will help researchers learn from and build upon their colleagues' discoveries. I applaud your vision and initiative!

Given the number of agencies involved, it will likely be a large and diverse effort. The current budget environment will likely add to the implementation challenges. I would like to do whatever I and Google Scholar can do to help.

As you might know, our goal for Google Scholar is to help researchers everywhere find & learn what their colleagues worldwide have discovered. It covers all research areas and is free to all users. For this, we have worked with publishers and libraries worldwide. We have also worked with many federal agencies & departments (NIH, Dept of Defense, Dept of Energy, Dept of Education, NASA, Smithsonian) to help make their collections of articles & technical reports discoverable by all researchers. Google Scholar is, today, the most widely used search service for scholarly articles.

As I mentioned in the note that Eric forwarded, we would be willing to implement and operate a repository for scholarly articles to help federal agencies who don't already have such a repository implement their public access plans. The repository would support the features mentioned in the directive and would be available to all participating federal agencies at no charge. I am hoping this would remove one of the possible obstacles for implementing public access for some of the agencies.

I am hoping this would be of interest. I would like to discuss this possibility with you - over phone/email or in person, whichever is convenient. I would, of course, also be happy to discuss any other way in which I or Google Scholar could help.

cheers,  
anurag

Begin forwarded message:

**From:** "Holdren, John P." (b) (6)  
**Subject:** RE: scientific journals  
**Date:** March 12, 2013 4:52:13 PM EDT  
**To:** Eric Schmidt (b) (6) Eric Lander (b) (6)  
**Cc:** "Kalil, Thomas A." (b) (6) "Stebbins, Michael J."  
(b) (6) "Siger, Rick"  
(b) (6) "Wackler, Ted M."  
(b) (6)

Eric --

Thanks for this note. The OSTP leads for the public-access initiative have been Tom Kalil, OSTP Deputy Director for Technology and Innovation, and Mike Stebbins, Assistant Director for Biotechnology in OSTP's Science Division. I'd suggest your folks connect with both of them.

(b) (6) (b) (6)

(b) (6) (b) (6)

Cheers,  
John

JOHN P. HOLDREN, PhD  
Assistant to the President for Science and Technology  
and Director, Office of Science and Technology Policy  
Executive Office of the President of the United States  
email (b) (6)  
direct phon (b) (6)  
assistant Karrie Pitze (b) (6) (b) (6)

-----Original Message-----

**From:** Eric Schmidt [mailto:(b) (6)]  
**Sent:** Tuesday, March 12, 2013 4:40 PM  
**To:** Holdren, John P.; Eric Lander  
**Subject:** scientific journals

John and Eric, the attached is a memo from the leader of Google Scholar. Can you point me to the right person in OSTP to continue the conversations ! Thanks Eric

\*\*\*\*\*

The OSTP has recently directed federal agencies with over \$100 million in annual R&D funding to develop plans to increase public access to the results of the funded research. This is a welcome development. As the memorandum for this directive notes, scientific research supported by the federal government catalyzes innovative breakthroughs that drive much of our economy.



The directive asks agencies to include several key components in their plans for scholarly articles resulting from federally funded research:

1. Facilitate easy public search, analysis of, and access to peer-reviewed scholarly publications;
2. Ensure full public access to publications' metadata without charge upon first publication;
3. Ensure that publications and metadata are stored in an archival solution that provides for long-term preservation and access to the content without charge;
4. Identify resources within the existing agency budget to implement the plan.

The directive wisely encourages public-private collaboration to maximize the impact of the federal research investment.

At Google, we share the belief that it is crucial that all researchers are able to discover, read and build upon what their colleagues have learnt. For this, we have developed Google Scholar which works with publishers, scholarly societies, libraries, government agencies and inter-governmental agencies worldwide to provide a free search interface to all research articles available online. It is currently the most widely used search service for scholarly articles.

To help facilitate the implementation of this directive, Google would be willing to implement and operate a repository for scholarly articles that federal agencies that don't already have such a repository would be able to use to implement their public access plan. The proposed repository would support the features mentioned in the directive and would be available to all participating federal agencies at no charge. Given the current tight budgetary environment, we believe that such a collaboration would facilitate a timely implementation of the public access plans. The repository would be implemented and operated on behalf of the agencies. If at a later point, one or more agencies would like to use a different repository, they would be able to move their articles to the new repository.

We would be happy to discuss this proposal in detail with designated officials at the OSTP as well as at individual federal agencies.

---

**From:** Vint Cerf (b) (6)  
**Sent:** Monday, December 10, 2012 9:49 AM  
**To:** Alec Ross; Ari Schwartz; bruce andrews; francisco sanchez; Jane Lute; Larry Strickling; mark weatherford; Sapiro, Miriam; pat gallagher; Philip L Verveer; Rich O'Lear; Kalil, Thomas A.  
**Subject:** Fwd: eg update

----- Forwarded message -----

**From:** Bremmer, Ian (b) (6)  
**Date:** Mon, Dec 10, 2012 at 8:17 AM  
**Subject:** eg update  
**To:** Vinton Cerf (b) (6)

dear vint,

these days, whether my thoughts tend towards the middle east or china depends on the time horizon--today's (and tomorrow's) headlines or the looming trend that's driving the future of the world economy. a little of both in this week's update: the area of growing structural tension for chinese governance, the latest around the syrian conflict, and president morsi's gambit in egypt. then my brief take on north korea with a new long-range missile test looming. and three odds and ends from distant corners of the globe: russia, cuba, and mali.

### china

the big china story of late is how the economy is picking up momentum, with consensus estimates for the next two years bouncing back to well over 8%. that's boosting investor sentiment and holding off discussion of near-term stimulus. it also implies that the chinese government is "getting it right." after all, if stronger growth is returning to china, and strong growth is the key indicator of a country's economic success, then the challenges faced by beijing --at least internally-- should be getting more manageable.

but that's actually much less true for china today than it has been over the past three decades, or for other major emerging markets around the world. the problem is that china's population increasingly reflects two very different countries with very different priorities...and accordingly different views of what they want from government.

more than half of china's population --nearly all of china's rural population (just under 50% of the country) and a solid minority living in china's cities as itinerant labor --remains living in "third world" conditions. they have poor and inconsistent income and limited access to quality education or basic social services. they don't have cell phones, never mind computers, and they have little awareness of changes occurring across the country.

life is radically different for most of china's permanent urban population whose wealth--and worldview--has changed startlingly over the recent period of china's explosive growth. many live at the standards of developed countries: shanghai's population has a per capita income of over \$20,000, with some of the best education rates in the world. china's urbanites are information rich as well--they have access to the internet, chinese social media, and are as engaged in their societies as people in many advanced industrial democracies.

these two populations have completely different demands from the central government. china's rural and itinerant urban populations have essentially the same perspective they have had for decades--provide them better jobs, bring them greater distribution of wealth. they'll be happier as china's growth rebounds in the next two years, and while we'll continue to see demonstrations pop up over environmental calamities, police brutality, or villages razed for the latest infrastructure project, these will be squarely aimed at local officials...and accordingly, fixable by the central government. that's a huge success story for the chinese government--it has been, and will remain, a surprisingly well governed authoritarian, state-capitalist state.

china's permanent urban population isn't going to be so pleased. having now achieved a level of job security, material comfort, and opportunity for their children, they're no longer primarily interested in economic growth. they want their quality of life to improve--product safety, improved air and water quality, improved infrastructure quality... they want an accountable and responsive chinese government.

in short, the chinese government works very well for one of its constituencies, and increasingly not well at all for another. the solution would be flexibility--create different governing priorities for china's different populations. just like special economic zones were created when china began its economic transformation from a centrally planned to a state capitalist economy, you would essentially have special governance zones--where rule of law, enforcement of intellectual property, an open banking system, more openness on social

organization, and a host of other liberalizing features would be permitted. china, presently a unitary, top down political and economic system, run through consensus by the highest levels of the communist party, would become an increasingly federal government.

but if the selection process for the new chinese leadership taught us anything, it's that there's no willingness to engage in experimentation with different types of economic and political liberalization. china's governance and china's policies are very much in a "one china" mode...despite a growing absence of one china. and so the next two years are likely to see investors overstate enthusiasm for china stability, mistaking economic growth as a salve for the chinese population's grievances. underneath that trend, the unsustainable nature of the chinese model is likely to grow considerably more acute.

### **syria**

after a few weeks of violence on the ground but very little else, suddenly there's a flurry of international discussion on syria. that's mostly been talk about chemical weapons -stark warnings from the americans, the brits, nato, and the united nations that a decision by bashar assad to use them would constitute a "red line" (and, presumably, lead to a direct military response).

the notion that assad has chemical weapons capacity isn't new. but there's growing optimism in the white house that military momentum has shifted to the rebels--gains on the ground made in recent fighting while the syrian government is under a tightening economic noose (and with limited international support), which in turn has led to planning for what might happen if assad finds himself trapped in a corner.

what that hasn't translated into is a clear way forward in the conflict. the united states and european allies have mooted varied diplomatic efforts--on one front, trying to convince assad to accept asylum...which has gone nowhere. on a second, reopening dialogue with the russian government, whose support for assad remains in place, but with a growing understanding that it's not a winning long-term strategy. that's at least gotten the two sides talking, but short of mutual support for mediation (which remains nowhere near feasible), there's still a political impasse.

that's still true, at least in part, because we're far from an endgame--assad has a cohesive military with forces deployed all over the country; were the regime on its last legs, that would change dramatically with a withdrawal of forces back

to damascus. which means, absent any feasible political solutions--or the political will to engage militarily--the united states and its european allies want to at least limit the possibilities of the absolute worst case scenario.

## **egypt**

demonstrations very much the order of the day in egypt, where president mohamed morsi rescinded his temporary decree removing checks on his power...but stuck firm with his constitutional referendum slated for 15 december.

with backing from the military and most egyptians supportive of or indifferent to the more islamist governing of the muslim brotherhood, morsi has the stronger position here and is pressing it. but the potential for miscalculation, and accordingly a return to more serious instability, has grown -- that's what's behind the offer of "compromise" by the egyptian president, but that's not enough to quell instability on the streets of cairo.

it's shaping up to be a very tense week in egypt, with the prospects of significant violence growing --friday's protests in particular could match the first egyptian revolution. but either way, the most likely outcome is that morsi's rule is unchallenged, the military stays aligned with him and maintains order, the constitutional referendum passes...and egypt ends up with a considerably more illiberal democracy.

## **north korea**

despite stern warnings from the international community, the north korean government announced they will proceed with a long range missile (and satellite) launch in the coming two weeks. it's hard to be enthusiastic about north korea military muscle flexing, but the transparency involved has been significant--giving a clear window for the launch, discussing it in advance with both china and singapore (and so trying to balance the external relations), and giving plans for the actual anticipated missile path...over the philippines (the least worrisome of potential trajectories).

the launch will come, international condemnation will follow, and that's about it. six party talks on north korea's nuclear program have been dead for nearly three years. what comes next depends on what's going on in north korea...and it's exceptionally hard to say. there's no useful intelligence on kim jong un, his advisors, his military leaders, or relations between the three.

there's potential for an opening: during president obama's

recent trip to burma, obama included an olive branch directly intended for north korea, saying the burmese route was open to the north koreans if they wanted it. they don't, or at least, not in quite that way. given the incredibly tight control of economy and information in the totalitarian north korean regime, inducements to get kim jong un to suddenly open up would be dangerous indeed. but given the political and military posture taken by kim jong un's regime in the year since his accession to power, a shift towards engaging more with the west is plausible. on balance, i'd take the missile test as a positive sign.

### odds and ends

in **russia**, the minister of emergency situations officially declared that he had determined that the world would not end on 21 december as projected by the mayan calendar. russians, frequently prone to bouts of conspiracy thinking, have been growing increasingly taken with the date --hoarding staples (matches, candles, salt) in cities across the country, as well as showing a marked increase in illness. it's pretty extraordinary for a minister to make such a public statement to calm nerves --showing both the paternalistic role of the government in russian life, as well as some of the challenges of the russian opposition making a dent on president vladimir putin's rule (to say nothing of the anxiety they could've saved themselves if they just read the "red herrings" from our top risks list of 2012...).

the castro regime announced last week that **cuba** was banning reggaeton music due to its vulgarity --as well as sanctioning musicians whose lyrics are sexually explicit. it's the first time cuba's engaged in such a sweeping crackdown...a surprising move in what's otherwise been an incremental path by the castro regime towards liberalization. it merits caution in the belief that cuba's moving towards greater openness --the cuban regime remains both heavy-handed and prone to erratic decision-making.

if there's a new military front for the united states, it's less likely to be syria than **mali**. the pentagon has started to organize a multilateral military intervention there --the idea being to train, provide arms and transport for african troops to fight an insurgency war against growing numbers of terrorist cells operating in the country. the white house is also preparing a resolution for the un security council to approve the force...unlike the middle eastern tensions, there's no strong opposition to averting complete breakdown in mali. suspect i'll be writing more on this next year...

\* \* \*

i've just gotten to washington for some white house meetings  
today/tomorrow. maybe a bit of insight into the secretary of  
state post.. hope all is well!

very best,  
ian

---

**From:** Stebbins, Michael J.  
**Sent:** Wednesday, March 13, 2013 5:14 PM  
**To:** 'George Ivanov'  
**Subject:** RE: Mutual Intro

Sorry I was late. Just dialed in. Is there a direct line I can reach you at?

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Tuesday, March 12, 2013 11:30 PM  
**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

Hi Mike,

We can use this bridge for tomorrow's call:

Toll-free dial-in number (U.S. and Canada):  
(866 (b) (6))  
Conference code:  
7327891852

Sincerely,  
George

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**Subject:** RE: Mutual Intro

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**Sent:** Wednesday, March 13, 2013 5:23 PM  
**To:** Stebbins, Michael J.  
**Subject:** RE: Mutual Intro

Mike, can we reschedule for tomorrow?

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(b) (6) (b) (6)

---

**From:** Dorgelo, Cristin  
**Sent:** Thursday, March 14, 2013 1:07 PM  
**To:** Jose Oyola-Sepulveda  
**Subject:** RE: Solve for X Invoice

Hi Jose:

Can you confirm receipt of payment?

I've mailed a check to the address below a number of weeks ago and wanted to confirm receipt, as I noticed the check has not yet been processed.

Thanks,  
Cristin

**Cristin Dorgelo**  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

**From:** Jose Oyola-Sepulveda [mailto:(b) (6)]  
**Sent:** Wednesday, February 06, 2013 3:30 PM  
**To:** Dorgelo, Cristin  
**Subject:** Solve for X Invoice



Hi Cristin,  
Thank you for participating in Solve for X, we hope you enjoy it!  
Per relevant gift rules we are providing you with the invoice below covering food+beverages+swag for this event. If you require an invoice for anything else please let me know.  
Regards,  
-Jose

Jose Ramon Oyola-Sepulveda | Ethics and Compliance (b) (6) (b) (6)

---

## INVOICE

**BILLED TO:** Cristin Dorgelo  
White House

**InvoiceNumber** CAT182

**InvoiceDate** 2/6/13

**Terms** Net 30



SEND PAYMENT  
TO:

Jose Ramon Oyola-Sepulveda  
1101 New York Avenue, NW  
Second Floor  
Washington, D.C. 20005

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1	Food + Beverages	\$ 550.00	\$ 550.00
1	Patagonia Jacket	\$ 200.00	\$ 200.00

Note: Please make checks payable to Google Inc.

Total \$750

Questions concerning this invoice? Call 202 (b) (6)

---

**From:** Stebbins, Michael J.  
**Sent:** Wednesday, March 13, 2013 5:09 PM  
**To:** 'Anurag Acharya'  
**Cc:** Kalil, Thomas A.  
**Subject:** RE: scientific journals

Great. How about 11am pacific, 2pm Eastern this Friday? What is the best number to reach you at?  
Regards,  
Mike

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**Sent:** Wednesday, March 13, 2013 3:29 PM  
**To:** Stebbins, Michael J.  
**Cc:** Kalil, Thomas A.  
**Subject:** Re: scientific journals

Dear Mike: thanks for the quick response!

Tomorrow and Friday, any time between 9am and 3pm Pacific would work for me. Times next week (all times Pacific):  
Mon - any time between 10am and 4pm  
Tues - 11:30-4pm  
Wed - 9am-4pm  
Thurs - noon-3pm  
Fri - I am not sure about my schedule for next Friday. Do let me know if friday would be work best at your end and I will try to rearrange things.

cheers,  
anurag

On Wed, Mar 13, 2013 at 5:53 AM, Stebbins, Michael J. (b) (6) wrote:

Dear Anurag,

Thank you for reaching out. It sounds like there might be some excellent opportunities to work together. What is your availability this week and next?

Kind Regards,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Wednesday, March 13, 2013 12:47 AM  
**To:** Kalil, Thomas A.; Stebbins, Michael J.  
**Subject:** Fwd: scientific journals

Dear Tom & Mike: I am the creator of Google Scholar. I am following up on Eric's message to John Holdren.

The OSTP public access initiative is a fantastic effort that will help researchers learn from and build upon their colleagues' discoveries. I applaud your vision and initiative!

Given the number of agencies involved, it will likely be a large and diverse effort. The current budget environment will likely add to the implementation challenges. I would like to do whatever I and Google Scholar can do to help.

As you might know, our goal for Google Scholar is to help researchers everywhere find & learn what their colleagues worldwide have discovered. It covers all research areas and is free to all users. For this, we have worked with publishers and libraries worldwide. We have also worked with many federal agencies & departments (NIH, Dept of Defense, Dept of Energy, Dept of Education, NASA, Smithsonian) to help make their collections of articles & technical reports discoverable by all researchers. Google Scholar is, today, the most widely used search service for scholarly articles.

As I mentioned in the note that Eric forwarded, we would be willing to implement and operate a repository for scholarly articles to help federal agencies who don't already have such a repository implement their public access plans. The repository would support the features mentioned in the directive and would be available to all participating federal agencies at no charge. I am hoping this would remove one of the possible obstacles for implementing public access for some of the agencies.

I am hoping this would be of interest. I would like to discuss this possibility with you - over phone/email or in person, whichever is convenient. I would, of course, also be happy to discuss any other way in which I or Google Scholar could help.

cheers,

anurag

Begin forwarded message:

**From:** "Holdren, John P." (b) (6)

**Subject:** RE: scientific journals

**Date:** March 12, 2013 4:52:13 PM EDT

**To:** Eric Schmidt (b) (6) Eric Lander (b) (6)

**Cc:** "Kalil, Thomas A." (b) (6) "Stebbins, Michael J."

(b) (6) "Siger, Rick"

(b) (6) "Wackler, Ted M."

(b) (6)

Eric --

Thanks for this note. The OSTP leads for the public-access initiative have been Tom Kalil, OSTP Deputy Director for Technology and Innovation, and Mike Stebbins, Assistant Director for Biotechnology in OSTP's Science Division. I'd suggest your folks connect with both of them.

(b) (6) (b) (6)

(b) (6) (b) (6)

Cheers,  
John

JOHN P. HOLDREN, PhD

Assistant to the President for Science and Technology  
and Director, Office of Science and Technology Policy  
Executive Office of the President of the United States

email (b) (6)

direct phone (b) (6)

assistant Karrie Pitze (b) (6) (b) (6)

-----Original Message-----

From: Eric Schmidt [mailto:(b) (6)]

Sent: Tuesday, March 12, 2013 4:40 PM

To: Holdren, John P.; Eric Lander

Subject: scientific journals

John and Eric, the attached is a memo from the leader of Google Scholar. Can you point me to the right person in OSTP to continue the conversations ! Thanks Eric

\*\*\*\*\*

The OSTP has recently directed federal agencies with over \$100 million in annual R&D funding to develop plans to increase public access to the results of the funded research. This is a welcome development. As the memorandum for this directive notes, scientific research supported by the federal government catalyzes innovative breakthroughs that drive much of our economy.

The directive asks agencies to include several key components in their plans for scholarly articles resulting from federally funded research:

1. Facilitate easy public search, analysis of, and access to peer-reviewed scholarly publications;
2. Ensure full public access to publications' metadata without charge upon first publication;
3. Ensure that publications and metadata are stored in an archival solution that provides for long-term preservation and access to the content without charge;
4. Identify resources within the existing agency budget to implement the plan.

The directive wisely encourages public-private collaboration to maximize the impact of the federal research investment.

At Google, we share the belief that it is crucial that all researchers are able to discover, read and build upon what their colleagues have learnt. For this, we have developed Google Scholar which works with publishers, scholarly societies, libraries, government agencies and inter-governmental agencies worldwide to provide a free search interface to all research articles available online. It is currently the most widely used search service for scholarly articles.

To help facilitate the implementation of this directive, Google would be willing to implement and operate a repository for scholarly articles that federal agencies that don't already have such a repository would be able to use to implement their public access plan. The proposed repository would support the features mentioned in the directive and would be available to all participating federal agencies at no charge. Given the current tight budgetary environment, we believe that such a collaboration would facilitate a timely implementation of the public access plans. The repository would be implemented and operated on behalf of the agencies. If at a later point, one or more agencies would like to use a different repository, they would be able to move their articles to the new repository.

We would be happy to discuss this proposal in detail with designated officials at the OSTP as well as at individual federal agencies.

---

**From:** Stebbins, Michael J.  
**Sent:** Wednesday, March 13, 2013 6:24 PM  
**To:** 'Vint Cerf'; Frye, Joan  
**Subject:** RE: Citizen Science

Great seeing you again Vint. We heard from Eric Schmidt about some interest from Google Scholar in helping to implement the public access policies. Do let me know if you would like to chat but implementation regardless of which hat you are wearing for the conversation.

Best Regards,  
Mike

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Tuesday, March 12, 2013 3:35 PM  
**To:** Frye, Joan  
**Cc:** Stebbins, Michael J.  
**Subject:** Re: Citizen Science

Will do, Joan- thanks for seeing me on no notice!

v

On Tue, Mar 12, 2013 at 3:31 PM, Frye, Joan (b) (6) wrote:

Vinton,

It was a pleasure meeting you this afternoon. As we discussed in my office, I am trying to put together a Champions of Change event (<http://www.whitehouse.gov/champions>) this spring that will feature citizen science. Therefore, I'm inviting you to share your thoughts on any truly exemplary citizen science projects that you have come across.

Please feel free to call or send email if you have any questions:

Many thanks,

Joan

Joan M. Frye, PhD

Senior Policy Analyst

Executive Office of the President

Office of Science and Technology Policy

Eisenhower Executive Office Building

Washington, DC 20504

(b) (6)

---

**From:** Stebbins, Michael J.  
**Sent:** Friday, March 15, 2013 10:06 AM  
**To:** 'George Ivanov'  
**Subject:** RE: Mutual Intro

I am free at 230 and 4pm. Do either of those times work for you?

Best,  
Mike

**From:** George Ivanov [mailto: (b) (6)]  
**Sent:** Thursday, March 14, 2013 9:32 AM  
**To:** Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

Hi Mike,

Would 2-2:30 or 3-3:30 work? We can use the same bridge numbers.

Sincerely,  
George

On Wed, Mar 13, 2013 at 5:23 PM, Stebbins, Michael J. (b) (6) wrote:

Absolutely. Afternoon is best for me.

**From:** George Ivanov [mailto: (b) (6)]  
**Sent:** Wednesday, March 13, 2013 5:23 PM  
**To:** Stebbins, Michael J.  
**Subject:** RE: Mutual Intro

Mike, can we reschedule for tomorrow?

On Mar 13, 2013 5:13 PM, "Stebbins, Michael J." (b) (6) wrote:

Sorry I was late. Just dialed in. Is there a direct line I can reach you a t?



**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Tuesday, March 12, 2013 11:30 PM  
**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

Hi Mike,

We can use this bridge for tomorrow's call:

Toll-free dial-in number (U.S. and Canada):  
(866) (b) (6)  
Conference code:  
7327891852

Sincerely,

George

On Tue, Mar 12, 2013 at 10:13 PM, Stebbins, Michael J. (b) (6) wrote:

Sure. What number shall I call you at?

Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

**From:** George Ivanov (b) (6)  
**Sent:** Tuesday, March 12, 2013 08:46 PM Eastern Standard Time  
**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

Hi Mike,

Would you be available for a quick call tomorrow at 5 pm?

Sincerely,

George

On Tue, Mar 12, 2013 at 5:16 PM, Stebbins, Michael J. (b) (6) wrote:

Dear George,

We just heard from Eric Schmidt about the interest in having Google Scholar play a role in the archiving. Do you have time to talk this week?

Regards,

Mike

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 6:03 PM

**To:** Stebbins, Michael J.

**Cc:** Sinai, Nick (b) (6)

**Subject:** Re: Mutual Intro

Thursday after 3pm would work well.

On Mon, Feb 25, 2013 at 5:58 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks! Absolutely. How are your Thursday and Friday afternoons looking?

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 5:43 PM  
**To:** Sinai, Nick  
**Cc:** (b) (6) Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

Hello Nick and Mike,

We just issued a blog post regarding Friday's memorandum. This is a great step forward and we would be interested in learning about any related federal initiatives that might be in the works. Mike, would you have time for a quick call later this week?

Sincerely,

George

On Wed, Nov 21, 2012 at 4:11 PM, Sinai, Nick (b) (6) wrote:

Mike Stebbins is point at OSTP for open access to research publications

George Ivanov and Johanna Shelton are at Google, in the DC office

--

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1101 New York Ave NW  
Washington, DC 20005

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(b) (6)

(b) (6)

---

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Tuesday, December 11, 2012 8:24 AM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton (b) (6)  
**Subject:** Re: FW: [WH Blog] United Behind the Free Flow of Information

outstanding. thanks david.

ross

On Tue, Dec 11, 2012 at 4:53 PM, Edelman, R. David (b) (6) wrote:

Johanna, Ross,

Thought you and the team may be interested in the below.

-rD

---

**From:** Edelman, R. David  
**Sent:** Tuesday, December 11, 2012 7:52 AM  
**Subject:** [WH Blog] United Behind the Free Flow of Information

<http://www.whitehouse.gov/blog/2012/12/11/united-behind-free-flow-information>

## United Behind the Free Flow of Information

By: Michael Daniel, R. David Edelman and Tom Power  
December 11, 2012  
12:00 AM EST

Across his Administration, President Obama has taken bold steps advancing a digital environment that rewards innovation and empowers individuals the world over. These ideas, and the policies that support them, are cornerstones of America's economy. But the benefits from this approach extend well beyond the United States; they are equally important to the social and economic wellbeing of Internet users across the globe. This is why the United States is strongly represented at the World Conference on International Telecommunications (WCIT) treaty conference in Dubai this month, where over 100 delegates from the public sector, private sector, and civil society are joining with our international partners to ensure the future of global, interoperable telecommunications networks.

Several White House officials were on hand for the Conference's opening days, where the hosts in the United Arab Emirates welcomed delegates and took some positive steps to address concerns the Conference be accessible to those outside its halls. As a crossroads in the interconnected global economy, Dubai is a natural venue to bring together the diversity of voices and views at the WCIT.

From the start, the U.S. position has been clear: the WCIT should be about updating a public telecommunications treaty to reflect today's market-based realities — not a new venue to create regulations on the Internet, private networks, or the data flowing across them.

Today, over 85 percent of the world has access to mobile phones because of modern, competitive marketplaces. And while much is left to be done connecting more to this digital future, the solution is not counterproductive regulation at the national or international level. By supporting principles that expand telecommunications infrastructure to underserved and developing populations, the WCIT can play a valuable role in ensuring technological innovation continues for the benefit of all.

But we should not confuse telecommunications infrastructure with the information that traverses it. The global consensus for a free and open Internet is overwhelming. Millions in the United States and around the world have already added their voices to this conversation, and their position is clear: they do not want the WCIT to govern the Internet or legitimize more state control over online content. Our Administration could not agree more — and will not support a treaty that sets that kind of precedent.

That position unites our Administration, industry, civil society, both parties and houses of Congress, and stakeholders around the world. Communications technologies and the Internet are essential to economic growth and global prosperity. The world deserves a WCIT outcome that delivers more connectivity without undue regulations. The United States will remain a fierce advocate for those principles at the Conference, and beyond.

*Michael Daniel is Special Assistant to the President and Cybersecurity Coordinator; R. David Edelman is Senior Advisor for Internet Policy; and Tom Power is U.S. Deputy Chief Technology Officer for Telecommunications*

--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations  
Google Inc.

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**From:** Stebbins, Michael J.  
**Sent:** Friday, March 15, 2013 10:06 AM  
**To:** 'George Ivanov'  
**Subject:** RE: Mutual Intro

I can also do 130 now.

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**To:** Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

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**To:** Stebbins, Michael J.

**Cc:** Sinai, Nick (b) (6)

**Subject:** Re: Mutual Intro

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**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 5:43 PM  
**To:** Sinai, Nick  
**Cc:** (b) (6) Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

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Sincerely,

George

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Mike Stebbins is point at OSTP for open access to research publications

George Ivanov and Johanna Shelton are at Google, in the DC office

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(b) (6)

(b) (6)

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**From:** Ross LaJeunesse (b) (6)  
**Sent:** Tuesday, December 11, 2012 4:47 PM  
**To:** Edelman, R. David  
**Subject:** dubai update

hi david

have you spoken to terry recently? i think he's trying to do the right thing, but my read is that others at state dept are interested in reaching a deal - there are some problematic things being considered now, including a proposal that openly discusses the need to foster internet growth and the ITU's role in doing that. it starts on page 23 of [THIS DOCUMENT](#). just to give you a sense of the crap that is flying at us. we actually had a discussion in the delegation about this, when i had expected the reaction to be "no way"...

i think kramer's worried that EU wants a deal and will split, and he's worried about optics of US being one of only a few to not sign.

please keep my fingerprints off this, but given our mutual interest in this working out well for the internet/innovation...

ross

--  
**Ross LaJeunesse**  
Global Head of Free Expression and International Relations  
Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

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**From:** Mielke, Dawn M.  
**Sent:** Tuesday, March 19, 2013 4:23 PM  
**To:** Zinnia Orosa  
**Subject:** Automatic reply: Follow-up/ Visiting DC

I am currently out of the office and will return March 25. If you need assistance please see call 202 (b) (6)

---

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Tuesday, December 11, 2012 4:59 PM  
**To:** Edelman, R. David  
**Subject:** Re: dubai update

sounds smart. i am working on the same assumptions that you are, but given tonight's del discussion on the internet proposal, i'd rather feel tomorrow that i had spoken up unnecessarily, than be in a position where i'm regretting having stayed silent

On Wed, Dec 12, 2012 at 1:54 AM, Edelman, R. David (b) (6) wrote:

Ross,

Thanks for the heads-up. I have, along with USG seniors, twice today. I've also reviewed the Chairman's "compromise" draft, and concur it's still full of unsavories and way over redlines.

I'd offer that Terry knows what he's doing to the extent that it's important he negotiate in good faith, and see if agreement is possible. However, he fully recognizes the Grand Canyon -like gulf between the two positions, and I have yet to see (at least in the last 8 hours) a deviation from his acceptance that we are not there and can't accept what's currently on the table. I hope that industry on the ground is reinforcing that view, as I'd assume they are.

If there are clear indications otherwise, let me know. But right now, I think we're all placing a cautious bit of faith in his understanding of the big picture. Keep me posted.

-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Tuesday, December 11, 2012 4:47 PM  
**To:** Edelman, R. David  
**Subject:** dubai update

hi david

have you spoken to terry recently? i think he's trying to do the right thing, but my read is that others at state dept are interested in reaching a deal - there are some problematic things being considered now, including a proposal that openly discusses the need to foster internet growth and the ITU's role in doing that. it starts on page 23 of THIS DOCUMENT. just to give you a sense of the crap that is flying at us. we actually had a discussion in the delegation about this, when i had expected the reaction to be "no way"...

i think kramer's worried that EU wants a deal and will split, and he's worried about optics of US being one of only a few to not sign.

please keep my fingerprints off this, but given our mutual interest in this working out well for the internet/innovation...

ross

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**Ross LaJeunesse**

Global Head of Free Expression and International Relations

Google Inc.

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**Ross LaJeunesse**

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Google Inc.

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---

**From:** Stebbins, Michael J.  
**Sent:** Friday, March 22, 2013 6:39 PM  
**To:** 'Anurag Acharya'  
**Subject:** RE: Authors making their books available under creative commons licenses

Fantastic. I will talk to some of the folks at NEH and see if they are interested in discussing this further.

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 15, 2013 9:20 PM  
**To:** Stebbins, Michael J.  
**Subject:** Authors making their books available under creative commons licenses

Hi Mike: here is the announcement of the the program Google Books has for author -specified Creative Commons licenses for their books.

<http://booksearch.blogspot.com/2009/08/bringing-power-of-creative-commons-to.html>

There isn't an easy way to get a list of books that are included. I don't think there are yet a large number of books in the program - the challenge here has always been reaching out to authors. Funding agencies are of course in a unique position for such an outreach. With such a cooperation, this could work quite well. I would be happy to follow up/discuss.

cheers,  
anurag



---

**From:** Stebbins, Michael J.  
**Sent:** Friday, March 22, 2013 6:39 PM  
**To:** 'Anurag Acharya'  
**Subject:** RE: repository for federally funded research articles

Thanks Anurag,  
Do you have time to talk again on the week of April 1<sup>st</sup>?  
Best,  
Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 15, 2013 9:47 PM  
**To:** Stebbins, Michael J.  
**Subject:** repository for federally funded research articles

Hi Mike: congratulations on the new OSTP policy on increasing public access to research articles funded by federal agencies!

One of the key issues for the success of the policy will be whether these articles are included in a publicly available repository. In addition to ensuring a consistent access mechanism for all users, inclusion in a repository would also help ensure archival access and long -term stewardship.

As the lead for Google Scholar, I have worked with publishers and libraries worldwide. I have also worked with most federal agencies and depts for indexing their existing collections of research articles. Based on my experience, I would like to share recommendations/proposals regarding repositories for federally funded research articles.

I am hoping this is of interest. I would be happy to visit or join a conversation.

cheers,  
anurag

---

**From:** Holdren, John P.  
**Sent:** Wednesday, March 27, 2013 9:29 AM  
**To:** Vint Cerf  
**Subject:** RE: A suggestion for NSF director

Vint – You can assure Bob Sproull that Cherry Murray has been on the short list of candidates from the day I learned from Subra that he was stepping down. (That does not mean, at this point, that she is willing to be considered.) Cheers, John

JOHN P. HOLDREN, PhD  
Assistant to the President for Science and Technology  
and Director, Office of Science and Technology Policy  
Executive Office of the President of the United States  
email (b) (6)  
direct phon (b) (6)  
assistant Karrie Pitze (b) (6) (b) (6)

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Wednesday, March 27, 2013 8:30 AM  
**To:** Holdren, John P.  
**Subject:** Fwd: A suggestion for NSF director

You may recall Bob Sproull as a major force in computer graphics, a key player at Sun Microsystems (and Sutherland & Sproull) and an active NAE member. His recommendation carries weight although I rather expect the WH is pretty far along with its potential choices.

vint

----- Forwarded message -----

**From:** Bob Sproull (b) (6)  
**Date:** Wed, Mar 27, 2013 at 8:04 AM  
**Subject:** A suggestion for NSF director  
**To:** Vint Cerf (b) (6)

I would urge you to consider Cherry Murray, currently dean of the School of Engineering and Applied Sciences at Harvard. I have no idea what procedure to follow to insert a candidate into the process, but I assumed you would know. Would you be willing to either insert her name or let me know how to do it?

Tnx  
Bob

---

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Wednesday, December 12, 2012 2:51 PM  
**To:** Edelman, R. David  
**Subject:** Re: Indications

hey, i don't mess around...

nothing's happened that suggests we're getting closer to an agreement w/ which the US del can live. and nothing's happened that indicates we're getting closer to a "consensus" we can't support either.

that's because we have 4 or 5 really significant issues and none of them has been locked down. and they won't be locked down individually; it'll only happen as some sort of deal.

i'm worried about what the deal looks like -- that the del will see winning 3 or 4 out of 5 as a "win" when each of them is critical and should lead (in my opinion) to a "no sign" situation.

on part (c), do you mean right now? if so, i'd say none. but we're quickly (by tomorrow noon, maybe?) getting to the point where our read on part (c) would be: the five eyes would be with us, i'm pretty certain. which additional states depends on the package deal that is eventually proffered, and whether the arab states -n-russia decide to go for broke (i don't see them as having anything to lose, but that's a sep arate analysis on russia). we would likely have some support in most of the regions (europe, americas, asia) but we're not likely to have complete support anywhere.

ross

On Wed, Dec 12, 2012 at 10:48 PM, Edelman, R. David (b) (6) wrote:

I understand that Eric personally called Secretary Clinton's office, which was an impressive show of force. I'd be curious to know his reaction to the conversation.

More importantly though, I think we're all synched up, but can you let me know your quick gut: is there *anything* that's happened in the last eight hours that suggests we're getting closer, rather than farther to (a) agreement on a treaty with which the USDEL can live, and (b) a "consensus" to which the U.S. simply cannot, in your view, sign on? Finally, (c) what do you assess to be the community of states that would join us in admitting no consensus and wrapping this up?

Always good to hear other perspectives.

-rD

◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇

R. David Edelman

Senior Advisor for Internet Policy

ph: (202) (b) (6) | bb: (202) (b) (6)

--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations  
Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

---

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Wednesday, December 12, 2012 5:17 PM  
**To:** Edelman, R. David  
**Subject:** Re: ITU vote to include internet proposal in treaty

it's in. it was a vote even if the ITU insists it wasn't. countries put up their voting signs and the chairman said the proposal was adopted as a result of the majority in the room agreeing with it.

On Thu, Dec 13, 2012 at 2:15 AM, Edelman, R. David (b) (6) wrote:

If it wasn't a vote, then it's not in there? I mean, I read the transcript. Sounds to me like it's in, thus sealing the fate. What's your take?

-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Wednesday, December 12, 2012 4:43 PM  
**To:** Edelman, R. David  
**Subject:** ITU vote to include internet proposal in treaty

Just happened. ITU insists it wasn't a vote, but it was. We lost.

--

**Ross LaJeunesse**  
Global Head of Free Expression and International Relations  
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---

**From:** Kathy Cooper (b) (6)  
**Sent:** Tuesday, December 11, 2012 7:11 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: Solve for X: Feb 6-8, 2013 (SF Bay Area) - Invitation

Dear Tom,

Just a friendly reminder to please [register here](#) at your earliest convenience. Please let me know if you have any questions!

Thank you,  
Kathy

On Tue, Nov 27, 2012 at 2:01 PM, Kathy Cooper (b) (6) wrote:

Dear Tom,

We are really excited that you will be joining us at



And you'll be in great company. We've invited an incredible group of accomplished scientists, thinkers, and visionaries.

They'll be ready to discuss, debate, and push world changing ideas forward. We hope you're ready to brainstorm about a wide range of moonshot ideas: artificial meat, quantum dots, plasma gasification, and digital fabrication (to name a few).

We will start with a reception at 5:30pm on the evening of February 6th, so we ask that you arrive sometime that afternoon. We also plan on doing an informal Show & Tell, so please consider bringing any artifacts or works in progress you'd like to share with the group.

**Lastly, please make sure to [register here](#)**, and feel free to reach out if you have any questions. We look forward to seeing you in person soon.

Best,

Kathy, on behalf of Eric, Megan and Astro

# SOLVE FOR

A forum to encourage and amplify technology-based moonshot thinking and teamwork.

SAVE THE DATE

"Any sufficiently advanced technology is indistinguishable from magic."

-Arthur C. Clark

We invite you to join us on February 6-8, 2013 for **Solve for X**, an intimate event for a small group of exceptional scientists, entrepreneurs, and technologists, to discuss and debate audacious science and technology projects designed to radically improve the world.

We look forward to having you join us,

**Eric Schmidt, Megan Smith and Astro Teller**

[www.wesolveforx.com](http://www.wesolveforx.com)

## location

Cordevalle Resort  
One Cordevalle Club Drive  
San Martin, CA 95046

## accommodations

Hotel accommodations will be provided for attendees on Wednesday, February 6 – Thursday, February 8.

## schedule

Wednesday, February 6 –  
Friday, February 8, 2013  
Opening reception on Wednesday before dinner  
with closing remarks on Friday afternoon.\*

\* The schedule is still being finalized—more details to follow with formal invite in coming weeks.  
This is an invitation-only event. Your invite is non-transferable.



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\* The schedule is still being finalized—more details to follow with formal invite in coming weeks.  
This is an invitation-only event. Your invite is non-transferable.

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Thursday, December 13, 2012 10:31 AM  
**To:** Edelman, R. David  
**Subject:** my direc (b) (6)

thanks!

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Dorgelo, Cristin  
**Sent:** Thursday, March 28, 2013 8:17 PM  
**To:** Astro Teller  
**Subject:** Brains

Hey Astro:

Quick question: You guys got any great folks working on neuroscience + nanoscience? If so, can you connect me?

Hope all is well with the moonshot team,  
Cristin

**Cristin Dorgelo**  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Thursday, December 13, 2012 1:50 PM  
**To:** Edelman, R. David  
**Subject:** thanks

for the update this morning - very helpful on my end. we just saw the latest developments and people here are relieved (somewhat).

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6).

---

**From:** Vint Cerf (b) (6)  
**Sent:** Thursday, December 13, 2012 11:43 PM  
**To:** Kalil, Thomas A.; Carla LaFever  
**Subject:** industrial internet

Tom, I will try to get on the call - I have an all day board meeting that day, Jan 7; how long is the call and when does it start?

vint

---

**From:** Sebastian Thrun (b) (6)  
**Sent:** Friday, December 14, 2012 2:41 AM  
**To:** Kalil, Thomas A.  
**Cc:** Will Patrick; Astro Teller; Vint Cerf; Megan Smith  
**Subject:** Re: White House phone call on Industrial Internet

Tom

Vint Cerf would be the logical person to talk to. Cc'ing him,

Best  
Sebastian

On Thu, Dec 13, 2012 at 12:04 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Sebastian:

We are going to organize a phone call on the week of January 7<sup>th</sup> with a small group of companies in IT (e.g. IBM, Cisco, Google) and industrial (GE, Boeing, GM) to discuss what some have been calling the Industrial Internet. If there is interest in proceeding, we will organize a larger and more inclusive set of meetings to define the goals of a national effort.

The goal of the call is to explore whether there is interest in government -industry-university collaboration to ensure US leadership in this area and to address issues such as cybersecurity, standards, longer -term research, etc.

One of the hypotheses that is driving the interests of some companies in working together is that there may be an "Industrial Internet stack" that would address the needs of many sectors, and in that in the absence of a broader industry conversation, individual companies may reinvent the wheel and develop non -interoperable solutions.

Is this something that Google would be interested in participating in, and would you feel comfortable representing Google? The point person at GE is Bill Ruh.

See [http://www.ge.com/docs/chapters/Industrial\\_Internet.pdf](http://www.ge.com/docs/chapters/Industrial_Internet.pdf) for a paper they've written on the topic.

I realize this is not a new idea. Marc Weiser from Xerox PARC started talking about ubiquitous computing in 1988 – and people have also been discussing the Internet of things and Machine to Machine communication for a while. But I do think it would be worthwhile to explore whether government -industry-university collaboration would advance the ball.

All the best,

Tom

---

**From:** Vint Cerf (b) (6)  
**Sent:** Friday, December 14, 2012 6:51 AM  
**To:** Sebastian Thrun  
**Cc:** Kalil, Thomas A.; Will Patrick; Astro Teller; Megan Smith  
**Subject:** Re: White House phone call on Industrial Internet

i have closed the loop with Tom.

v

On Fri, Dec 14, 2012 at 2:41 AM, Sebastian Thrun (b) (6) wrote:  
Tom

Vint Cerf would be the logical person to talk to. Cc'ing him,

Best  
Sebastian

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All the best,

Tom

---

**From:** Hal Varian (b) (6)  
**Sent:** Friday, December 14, 2012 9:53 AM  
**To:** Kalil, Thomas A.  
**Subject:** Re: Stats, not Calc

[http://www.amazon.com/Introduction-Probability-Texas-Holdem-Examples/dp/1439827680/ref=sr\\_1\\_fkmr0\\_1?s=books&ie=UTF8&qid=1355496688&sr=1\\_-1-fkmr0&keywords=teaching+probability+with+texas+hold%27em](http://www.amazon.com/Introduction-Probability-Texas-Holdem-Examples/dp/1439827680/ref=sr_1_fkmr0_1?s=books&ie=UTF8&qid=1355496688&sr=1_-1-fkmr0&keywords=teaching+probability+with+texas+hold%27em)

More seriously, I know the Royal Economics Society has developed a model for a high school curriculum in probability and statistics. Perhaps the American Statistical Association has done the same. I will ask.

On Fri, Dec 14, 2012 at 7:56 AM, Kalil, Thomas A. (b) (6) wrote:  
Dear Hal:

Tim O'Reilly told me about your conversation on this.

I'm in violent agreement with this.

The question is - who would need to do what to make progress on this?

For example, NSF has worked with the CS community to overhaul the AP curriculum. I've started a conversation with the College Board about a portfolio-based Engineering Design course.

Thanks!

Tom

---

**From:** Ross Lajeunesse (b) (6)  
**Sent:** Wednesday, December 12, 2012 4:43 PM  
**To:** Edelman, R. David  
**Subject:** ITU vote to include internet proposal in treaty

Just happened. ITU insists it wasn't a vote, but it was. We lost.

---

**From:** Stebbins, Michael J.  
**Sent:** Friday, March 29, 2013 3:18 PM  
**To:** (b) (6)  
**Subject:** Re: repository for federally funded research articles

Sorry. I am on vacation. How about Tuesday? I am open from 1 -3.

---

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 29, 2013 02:46 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: just checking in to see if we are on for talking some time next week.

cheers,  
anurag

On Tue, Mar 26, 2013 at 12:46 PM, Anurag Acharya (b) (6) wrote:  
Sure. Mon/Tues/Thurs/Fri morning Pacific would work for me next week. If none of these work for you, let me know some times that would.

cheers,  
anurag

On Fri, Mar 22, 2013 at 3:38 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks Anurag,

Do you have time to talk again on the week of April 1<sup>st</sup>?

Best,

Mike

---

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 15, 2013 9:47 PM  
**To:** Stebbins, Michael J.  
**Subject:** repository for federally funded research articles

Hi Mike: congratulations on the new OSTP policy on increasing public access to research articles funded by federal agencies!

One of the key issues for the success of the policy will be whether these articles are included in a publicly available repository. In addition to ensuring a consistent access mechanism for all users, inclusion in a repository would also help ensure archival access and long -term stewardship.

As the lead for Google Scholar, I have worked with publishers and libraries worldwide. I have also worked with most federal agencies and depts for indexing their existing collections of research articles. Based on my experience, I would like to share recommendations/proposals regarding repositories for federally funded research articles.

I am hoping this is of interest. I would be happy to visit or join a conversation.

cheers,

anurag

---

**From:** Stebbins, Michael J.  
**Sent:** Tuesday, April 02, 2013 6:21 PM  
**To:** 'Anurag Acharya'  
**Subject:** RE: repository for federally funded research articles

How about tomorrow at 530pm Eastern?

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Tuesday, April 02, 2013 2:17 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: looks like we missed each other. Should we reschedule? Any time after 10am Pacific/1pm Eastern would work for me this week. Next week, 10am -2pm Pacific would work Mon->Thurs and 10-1pm Friday.

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cheers,  
anurag

---

**From:** Stebbins, Michael J.  
**Sent:** Thursday, April 04, 2013 12:13 PM  
**To:** 'Anurag Acharya'  
**Subject:** RE: repository for federally funded research articles

Fantastic. I will discuss the dates with the group today and see what openings exist. We are juggling a number of presentations. How is next week looking for you?

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Thursday, April 04, 2013 3:42 AM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: it was really good to sync up today. I would like to take you up on the offer to speak to the interagency group - to present the argument for a centralized repository and to describe our proposal in detail.

You had mentioned that the group meets on thursdays. Would April 25th Thursday work? If not, the following thursday (May 2nd)? I was initially trying to make April 18th work but we just moved from LA to Palo Alto - which makes for a long TODO list, as always....

Would be good to chat again sometime this week or next and discuss what would be good to cover in the presentation.

cheers,  
anurag

On Tue, Apr 2, 2013 at 3:39 PM, Anurag Acharya (b) (6) wrote:  
Sounds good. I will be a (b) (6)

anurag

On Tue, Apr 2, 2013 at 3:21 PM, Stebbins, Michael J. (b) (6) wrote:

How about tomorrow at 530pm Eastern?

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Tuesday, April 02, 2013 2:17 PM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles



Hi Mike: looks like we missed each other. Should we reschedule? Any time after 10am Pacific/1pm Eastern would work for me this week. Next week, 10am -2pm Pacific would work Mon->Thurs and 10-1pm Friday.

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**To:** Stebbins, Michael J.  
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I am hoping this is of interest. I would be happy to visit or join a conversation.

cheers,

anurag

---

**From:** Kalil, Thomas A.  
**Sent:** Wednesday, April 03, 2013 8:25 AM  
**To:** Greenblatt, Jonathan; (b) (6) Garg, Kumar  
**Cc:** FN-WHO-Innovation  
**Subject:** Re: checking in on STEM Corps

+ Kumar. NSF is on board. I'm on spring break - but Kumar can participate in any calls you set up.

---

**From:** Greenblatt, Jonathan  
**Sent:** Wednesday, April 03, 2013 08:14 AM  
**To:** (b) (6), (b) (6)  
**Cc:** Kalil, Thomas A.; FN-WHO-Innovation  
**Subject:** checking in on STEM Corps

Jacqueline,

Hi there. I trust all is well. Its been a few weeks since we met in NYC, but wondering if you might have time either today or tomorrow for a quick check -in call on STEM Corps?

We have been working with CNCS on innovative models for funding this effort consistent with the vision/parameters that you shared in New York. It would be good to spend a few minutes talking through the basic framework for your feedback and discuss next steps. Additionally, we have a fast approaching and very exciting opportunity to give this effort a big lift and would like to work with you/your team to capitalize.

Is there a time that works for you to connect with us?

best,

Jonathan

---

**From:** Edelman, R. David  
**Sent:** Friday, April 05, 2013 11:56 AM  
**To:** Charlie Hale  
**Subject:** RE: head of self-driving car in DC April 10th

Hi Charlie,

Sorry for the delay getting back to you! Was trying to figure out my own schedule, as I'm traveling back to SF on Thursday of next week. But it does look like I'll be here on the 10<sup>th</sup>, and would love to see Chris. I'll see if I can pull together our SDC group, but my guess is since it's out -of-band schedule-wise, we may not be able to get them together this time around.

Do you have a sense of the open windows on his schedule?

Cheers,  
-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Monday, April 01, 2013 2:50 PM  
**To:** Edelman, R. David  
**Subject:** head of self-driving car in DC April 10th

Hi David,

I just wanted to let you know that the head of the self-driving car project (Chris Urmson) is going to be in DC for a meeting on April 10th. If your schedule allows for it, I'm sure he'd love to either meet with you or brief your interagency committee if that would be of interest.

Take care,  
Charlie

On Fri, Feb 1, 2013 at 9:34 AM, Edelman, R. David (b) (6) wrote:  
Here in the lobby (bldg 43, correct?)

---

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Thursday, January 31, 2013 06:08 PM

**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Great. I'm at 1875 Charleston Ave and the lobby is in the back of the building where the parking lot is located. We can grab coffee, walk across campus and meet the rest of the team at 10.

On Thu, Jan 31, 2013 at 3:00 PM, Edelman, R. David (b) (6) wrote:  
Sure, why not? Let's do 9:30. Give me the address and building number, and I'll see you in the lobby.

-----Original Message-----

**From:** Charlie Hale (b) (6)  
**Sent:** Thursday, January 31, 2013 01:22 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Great! If you'd like to come at 9:15-9:30 then you and I can grab coffee or I can show you around campus a bit, and then we can head to the building where we'll be meeting with the team.

Sound good?

On Wed, Jan 30, 2013 at 10:47 AM, Edelman, R. David (b) (6) wrote:

Charlie,

That's fantastic, thank you. Actually, yes, I would – if I'm going to be writing policy on the technology, makes sense to see it in action. 10 and 10:30am is fine, and could even do a bit earlier (9:30 or 9:45) if there is appetite to go a bit more in-depth, as I certainly would be interested.

Let me know the coordinates and who might be joining, and looking forward to it.

Cheers,

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Wednesday, January 30, 2013 11:15 AM

**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Hi David,

I heard back from a few of the team leads and we'd love to have you down on Friday morning. Would you be interested in getting a demo in the car? We'd be happy to take you out for a ride if you have time.

Also what time works best for you? I was thinking we could meet with some folks at 10:00, talk for about 30 minutes and then get a demo around 10:30. What do you think?

Looking forward to it!  
-Charlie

On Tue, Jan 29, 2013 at 4:53 PM, Edelman, R. David (b) (6) wrote:

Fantastic, thanks, Charlie!

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 7:52 PM

**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sure! Mountain View on Friday morning works well. I emailed the team so I'll get back to you as soon as I have some times nailed down.

On Tue, Jan 29, 2013 at 4:18 PM, Edelman, R. David (b) (6) wrote:

I'll actually already be down south that morning/afternoon, so MV is probably best, no?

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 7:17 PM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sounds great!

Would you like to meet in the Google SF office and we can video conference with anyone from the chauffeur team, or meet in Mountain View?

On Tue, Jan 29, 2013 at 4:09 PM, Edelman, R. David (b) (6) wrote:

Charlie, great to chat earlier. One note per our prior discussion: it's looking like morning/pre -lunch on Friday is preferable to afternoon, if possible.

-David

<><><><><><><><><>

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

Hi David,

Sarah



--  
Charlie Hale | Google Public Policy (b) (6).

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Charlie Hale | Google Public Policy (b) (6).

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Charlie Hale | Google Public Policy (b) (6).

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Charlie Hale | Google Public Policy (b) (6).

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Charlie Hale | Google Public Policy (b) (6)

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**From:** Edelman, R. David  
**Sent:** Friday, April 05, 2013 4:04 PM  
**To:** Johanna Shelton  
**Subject:** RE: call today?

Just rang. Will be around this afternoon when not underground.

-rD

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Friday, April 05, 2013 3:35 PM  
**To:** Edelman, R. David  
**Subject:** call today?

have a time-sensitive matter. i'm on my cell (b) (6)

thanks much

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Friday, April 05, 2013 4:44 PM  
**To:** Johanna Shelton  
**Subject:** RE: call today?

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On Fri, Apr 5, 2013 at 4:04 PM, Edelman, R. David (b) (6) wrote:

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1101 New York Ave NW, 2nd Fl

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(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Friday, April 05, 2013 5:00 PM  
**To:** 'Johanna Shelton'  
**Subject:** RE: call today?

Good people! Okay give me a ring when done. Cya!

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, April 05, 2013 04:44 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: call today?

IPEC

On Fri, Apr 5, 2013 at 4:44 PM, Edelman, R. David (b) (6) wrote:

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**To:** Edelman, R. David  
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---

**From:** Edelman, R. David  
**Sent:** Tuesday, April 09, 2013 1:34 PM  
**To:** George Ivanov  
**Cc:** Johanna Shelton  
**Subject:** RE: Expansion of Google Fiber to Austin, TX.

George,

Thanks for the update! Very exciting news for you all. Looking forward to seeing more as it rolls out.

Cheers,  
-rD

**From:** George Ivanov [mailto: (b) (6)]  
**Sent:** Tuesday, April 09, 2013 1:19 PM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton  
**Subject:** Expansion of Google Fiber to Austin, TX.

Hi David,

Today, we announced the expansion of the Google Fiber program to Austin, TX.

When we were originally choosing where to bring Fiber, Austin had one of the most enthusiastic responses (which you can see in [this map](#)). Their city leaders have worked hard to make this possible, and we are looking forward to seeing the benefits that this network will bring to Austin, where we plan to start connecting homes in mid-2014.

Austin provided great infrastructure and a business -friendly environment in which to deploy service. As with any deployment, policies around permitting and rights-of-way mattered, and the city leadership moved with efficiency to work with us. Of course, there's still more that federal, state, and local governments can do to make it easy for broadband providers to access existing infrastructure such as conduits and utility poles (which, according to the FCC, can amount to 20% of total buildout costs).

You can find more information in the [blog post](#) that just went live. Please let me know if you have any questions.

Sincerely,  
George

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)





**From:** Edelman, R. David  
**Sent:** Sunday, April 14, 2013 11:01 PM  
**To:** Charlie Hale; Christopher Urmson; Gina Mariko Rosales; George Ivanov; Sarah Fisher  
**Cc:** Edelman, R. David  
**Subject:** RE: meeting in DC on April 10th

Charlie,

I realize that in my travel shuffle, we weren't able to get this together. My sincere apologies to you and the rest of the team – Chris, sorry I missed you this time around!

I'm pulling some more folks together this week to move to our next phase of consideration on self-driving cars, perhaps we might schedule a conference call in the next couple of weeks to touch base on the conversations you've been having, and what you see as top priorities for the likes of us government-types?

All the best,  
-David

[illegible]

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

direct: (202 (b) (6) | topline: (202 (b) (6) | (b) (6)

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Friday, April 05, 2013 3:09 PM  
**To:** Edelman, R. David; Christopher Urmson; Gina Mariko Rosales; George Ivanov; Sarah Fisher  
**Subject:** meeting in DC on April 10th

Hi David,

Glad to hear you'll have time to meet with Chris. I'll let him speak to his schedule and Gina can help arrange a time that works best for the two of you. He'll be speaking on a panel in the Rayburn building from ~11:30 -1:30.

Also including my colleagues Sarah and George who will be supporting him while he's in town.

Thanks,  
Charlie

On Apr 5, 2013 8:56 AM, "Edelman, R. David" (b) (6) wrote:

Hi Charlie,

Sorry for the delay getting back to you! Was trying to figure out my own schedule, as I'm traveling back to SF on Thursday of next week. But it does look like I'll be here on the 10<sup>th</sup>, and would love to see Chris. I'll see if I can pull together our SDC group, but my guess is since it's out-of-band schedule-wise, we may not be able to get them together this time around.

Do you have a sense of the open windows on his schedule?

Cheers,

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Monday, April 01, 2013 2:50 PM  
**To:** Edelman, R. David  
**Subject:** head of self-driving car in DC April 10th

Hi David,

I just wanted to let you know that the head of the self-driving car project (Chris Urmson) is going to be in DC for a meeting on April 10th. If your schedule allows for it, I'm sure he'd love to either meet with you or brief your interagency committee if that would be of interest.

Take care,

Charlie

--

Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

--  
Charlie Hale | Google Public Policy (b) (6)

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**From:** Dorgelo, Cristin  
**Sent:** Monday, April 15, 2013 10:40 AM  
**To:** (b) (6)  
**Subject:** Invitation to 3rd White House Science Fair

Dear Sergey:

I hope this email finds you well. I enjoyed participating in this year's Solve for X gathering and hope to see you and others from the Solve for X community at the X PRIZE Visioneering meeting next week. In the meantime, I have a near-term invitation to share with you...

On behalf of the White House, I wanted to reach out to see if you might be interested in joining us **next Monday, April 22<sup>nd</sup>** for the **3<sup>rd</sup> White House Science Fair**. The event is a perennial favorite of the President and an inspiring convening of some of the most talented High School Science, Engineering, and Technology students from across the Nation. Selected students will have an opportunity to demonstrate their cutting-edge experiments for special guests and an online audience. At the event, you would be part of the audience for the President's remarks and would informally meet and greet with the students and with our partner organizations.

The data of this event has not yet been shared publicly. The exact time of the event is still being set, but it will either take place in early afternoon or late morning and will be a couple of hours in duration.

For information on last year's White House Science fair, here are two links, including a video that will give you an idea of the impressive students this event attracts:

<http://www.whitehouse.gov/photos-and-video/video/2012/02/09/2012-white-house-science-fair>

<http://www.whitehouse.gov/the-press-office/2012/02/06/background-exhibits-students-and-competitions-white-house-science-fair>

Let me know if you're available and interested in participating.

All best,  
Cristin

**Cristin Dorgelo**  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

---

**From:** Dorgelo, Cristin  
**Sent:** Wednesday, April 17, 2013 1:26 PM  
**To:** (b) (6)  
**Subject:** Invitation to the 3rd White House Science Fair on 4/22  
**Attachments:** WAVES\_20\_Excel\_Template\_2011-03-21.xls



Dear Sergey:

On behalf of the White House, it is my great pleasure to invite you to the White House Science Fair, a celebration of the student participants of various science, technology, engineering, and math (STEM) competitions from all over the country.

The event will take place on Monday, April 22nd, at the White House.

The White House Science Fair is a key commitment in the President's *Educate to Innovate* campaign to inspire more girls and boys to excel in STEM subjects. As the President has noted, "If you win the NCAA championship, you come to the White House. Well, if you're a young person and you produce the best experiment or design, the best hardware or software, you ought to be recognized for that achievement, too."

In order to attend, please RSVP by **10 AM EDT tomorrow, April 18<sup>th</sup>, 2013**, to me a (b) (6) and include all of the information in the attached spreadsheet for a required security check.

**Details**

**DATE:** Monday, April 22<sup>nd</sup>, 2013  
**TIMING:** 12:45 PM EDT (gates open at 12:30 PM EDT; event will end by 3:45 PM EDT)  
**LOCATION:** The White House, Washington D.C. (Additional information will be made available to confirmed attendees later in the week)

We hope to see you on April 22<sup>nd</sup>, and appreciate your understanding about the short notice.

Best wishes,  
Cristin

**Cristin Dorgelo**  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

---

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Monday, December 17, 2012 9:17 AM  
**To:** Edelman, R. David  
**Subject:** Re: Confirmed - Mon (tomorrow!) @ 11am - WH East Wing Tour

hi david, thanks so much for arranging this for us, but unfortunately we won't be able to make it. i did the very unusual thing of not checking my email on sunday, a small attempt to heal post -WCIT trauma, so just getting this now.

hope you're doing well and hope our paths cross again soon

ross

On Sun, Dec 16, 2012 at 9:55 AM, Edelman, R. David (b) (6) wrote:

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With apologies for the short notice, the Visitor's Office just informed me you've been confirmed for the East Wing Holiday Tour at

**11am tomorrow, Monday, December 17<sup>th</sup>.**

The tour is self-guided, so you can set your own pace; typically, it takes between 30 and 45 minutes to complete. No further RSVP is required, so please simply arrive promptly at 11am with the guests you submitted to me, and IDs in hand.

Additional information from the Visitor's Office is below. Enjoy!

Please arrive on time to the Southeast Gate at Alexander Hamilton Place and East Executive Avenue, right off of 15th Street and E Street **with Photo ID.**

Small bags and cameras are permitted, but please do not bring any of the following:

- Food or beverages, tobacco products, personal grooming items (i.e. makeup, lotion, etc.)
- Strollers
- Any pointed objects
- Aerosol containers
- Guns, ammunition, fireworks, electric stun guns, mace, martial arts weapons/devices, or knives of any size.

There is no place at the White House to check a large bag or a prohibited item. If it is raining, umbrellas are permitted.

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United States Secret Service officers are posted in every room to provide historical information about the room and the White House. Please feel free to ask them questions.

White House tours are subject to last minute changes or cancellations. You will be notified by email if your tour is changed or cancelled. Your guests may call the White House Visitors Office 24 -hour information line at 202-456-7041 for the most current information about White House tours.

On behalf of President and Mrs. Obama, we hope you enjoy your visit to the White House.

R. David Edelman

Senior Advisor for Internet Policy

ph: (202) (b) (6) | bb: (202) (b) (6)

## Ross LaJeunesse

Global Head of Free Expression and International Relations  
Google Inc.

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## Ross LaJeunesse

Google Inc.

## Ross LaJeunesse

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**Sent:** Monday, December 17, 2012 11:30 AM  
**To:** Edelman, R. David  
**Subject:** Re: Confirmed - Mon (tomorrow!) @ 11am - WH East Wing Tour  
**Attachments:** WH lajeunesse.xls

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we're getting bombarded for requests for media, to debrief civil society, to do mtgs on the hill

i'm working with DC team for a strategy of how to characterize WCIT (victory, loss or a less manichean spin) and what that, in turn, means moving forward

On Mon, Dec 17, 2012 at 11:31 AM, Edelman, R. David (b) (6) wrote:

Great. Will do.

What do you mean by engaging. You mean a larger hotwash of WCIT? Or engaging on a broader range of Internet and internet governance issues?

-rD

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- For foreign nationals, only VALID passports are accepted

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United States Secret Service officers are posted in every room to provide historical information about the room and the White House. Please feel free to ask them questions.

White House tours are subject to last minute changes or cancellations. You will be notified by email if your tour is changed or cancelled. Your guests may call the White House Visitors Office 24-hour information line at 202-456-7041 for the most current information about White House tours.

On behalf of President and Mrs. Obama, we hope you enjoy your visit to the White House.

◇◇◇◇◇◇◇◇◇◇

**R. David Edelman**

Senior Advisor for Internet Policy

ph: (202) (b) (6) | bb: (202) (b) (6)

--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations

Google Inc.

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**From:** Stebbins, Michael J.  
**Sent:** Wednesday, April 24, 2013 2:27 PM  
**To:** 'Anurag Acharya'  
**Subject:** RE: repository for federally funded research articles

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Regards,  
Mike

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**Sent:** Wednesday, April 24, 2013 11:50 AM  
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**From:** Ross LaJeunesse (b) (6)  
**Sent:** Tuesday, December 18, 2012 8:03 AM  
**To:** Edelman, R. David  
**Subject:** Re: Invitation: WCIT Reception - Thursday

still want to meet at 4pm before this?

On Mon, Dec 17, 2012 at 9:06 PM, Edelman, R. David (b) (6) wrote:



**THE WHITE HOUSE**

Washington

The Office of Science & Technology Policy, National Security Staff, and National Economic Council

*invite members of the*

**U.S. Delegation to the World Conference on International Telecommunications**

to an informal reception in their honor.

**Thursday, December 20<sup>th</sup>, 4:30 p.m. - 6:00p.m.**

The Indian Treaty Room

Eisenhower Executive Office Building



*To RSVP, please complete the attached form in its entirety and in the formats designated, and send **no later than Tuesday, 5pm** to (b) (6).*

*Business attire. Invitation is non-transferrable. Admittance only with*

*RSVP.*

R. David Edelman

Senior Advisor for Internet Policy

—

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**Subject:** Re: Invitation: WCIT Reception - Thursday

yes, see you at 3.30 -- where do i go for the mtg?

thanks

On Tue, Dec 18, 2012 at 3:00 PM, Edelman, R. David (b) (6) wrote:

Can you do 3:30 – 4:15pm on Th?

Also, I'm hoping that the del meeting will resolve questions about 'how to discuss' the issue – let me know if it doesn't and we need to pay more attention to it.

-rD

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**From:** Aparna Sridhar (b) (6)  
**Sent:** Wednesday, December 19, 2012 4:08 PM  
**To:** Lapointe, Adriane  
**Cc:** Mielke, Dawn M.; Edelman, R. David  
**Subject:** Re: Immediate Attention: WAVES Info Needed

Hi Adriane-

I'm writing to confirm that I have no middle name.

Thanks  
Aparna

Sent from mobile

On Dec 19, 2012, at 3:52 PM, "Lapointe, Adriane" (b) (6) wrote:

Hello, all.

Just to make sure you get in tomorrow:

If you have no middle initial, can you please confirm that?

If you provided only a middle initial, please provide your full name.

When you respond, please copy everyone on the cc line above.

Thanks!

Adriane

Betsy Broder  
Marilyn Cade  
Kathryn Brown  
Edward Black  
Aparna Sridhar  
Jackie Ruff

.....  
Adriane Lapointe

office: (20 (b) (6)

bb: (202 (b) (6)

(b) (6)

---

**From:** Astro Teller (b) (6)  
**Sent:** Thursday, December 20, 2012 1:21 PM  
**To:** Kalil, Thomas A.  
**Subject:** Registration for Solve for X

Hey Tom,

Can you take a moment and register ([register here](#))?

Thanks!

- Astro

---

**From:** Vint Cerf (b) (6)  
**Sent:** Saturday, December 22, 2012 1:45 PM  
**To:** Kalil, Thomas A.  
**Cc:** Holdren, John P.  
**Subject:** Re: 30th Anniversary of the Operational Launch of the Internet

many thanks.

On Sat, Dec 22, 2012 at 1:45 PM, Kalil, Thomas A. (b) (6) wrote:  
Dear Vint:

I suspect that the President's remarks will be of a more general nature - but let me see if there is any other way for us to recognize this important anniversary.

Best,

Tom

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**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Friday, December 21, 2012 12:01 PM  
**To:** Kalil, Thomas A.; Holdren, John P.  
**Subject:** 30th Anniversary of the Operational Launch of the Internet

John, Tom,

Jan 1, 2013 marks the 30th anniversary of the operational launch of the Internet. On that day, all the computers on the ARPANET converted to the TCP/IP protocols that lie at the heart of the Internet. The other two networks that formed the nascent Internet (a mobile packet radio network and a packet satellite network linking the US and Europe) had already been converted in 1982.

Do you suppose this milestone might be of interest to the President in his New Year's day remarks?

vint

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so much for that. despite about eight covers from the economist that showed the euro in various states of implosion/explosion, the **eurozone breakup** (and even its ugly stepsister, "grexit") was nothing of the sort. it's been by no means an easy year in europe, with record unemployment on a continent that slipped back into recession. but with chancellor merkel boasting approval ratings approaching 70% and a strong european central bank led by mario monti, support for tighter eurozone integration has been unwavering. the bet to make in 2012 was firmly against euro meltdown. hope you joined us in that.

and the much vaunted **china hard landing**? in 2012 that seemed to worry just about everybody but beijing. chinese leadership held firm to their state-centric economic growth model, resisted international pressure for further, faster "opening up," and eschewed massive subsidy. the economy duly slowed on the back of lower international demand, but a hard landing was never remotely in the cards. and china now stands poised to break 8% again for 2013...and 2014 too. if there's a problem, it's with what happens when china keeps growing and doesn't start fundamentally reforming its economic and political model--that's a growing risk for china as it manages changing domestic expectations as well as an increasingly hostile international environment.

in short, for the big stories, it was a year of kicking the can down the road. the americans, the europeans, and the chinese all avoided big trouble (presuming we're right about this whole fiscal cliff debacle--we're still expecting a deal)...and just as equally avoided breakthrough. looking at the biggest macro issues, 2012 was decidedly meh.

\* \* \*

looking at the top political risks, we opened the report claiming that 2012 represented **the end of the 9/11 era**. much as it pains me to say it, i suspect we'll look back at the newtown school massacre as the event that brought an end to the "war on terror"; with gun control and related domestic challenges eclipsing terrorism as the foremost security issue for the united states.

the trend has been much broader than that, of course. we expected geopolitics would move away from international security issues and be consumed more with domestic and economic trends. that's certainly been the case. the united states is out of iraq, and growing governance trouble --and violence--isn't going to lead the americans (or anyone else) to return. afghanistan is steadily deteriorating, while (and in part because) the united states plans for imminent exit. that's led to

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Tom

---

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Friday, December 21, 2012 12:01 PM  
**To:** Kalil, Thomas A.; Holdren, John P.  
**Subject:** 30th Anniversary of the Operational Launch of the Internet

John, Tom,

Jan 1, 2013 marks the 30th anniversary of the operational launch of the Internet. On that day, all the computers on the ARPANET converted to the TCP/IP protocols that lie at the heart of the Internet. The other two networks that formed the nascent Internet (a mobile packet radio network and a packet satellite network linking the US and Europe) had already been converted in 1982.

Do you suppose this milestone might be of interest to the President in his New Year's day remarks?

vint

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**From:** Vint Cerf (b) (6)  
**Sent:** Thursday, December 27, 2012 10:39 AM  
**To:** Alec Ross; Ari Schwartz; bruce andrews; francisco sanchez; Jane Lute; Larry Strickling; mark weatherford; Sapiro, Miriam; pat gallagher; Philip L Verveer; Rich O'Lear; Kalil, Thomas A.  
**Subject:** Fwd: eg update

----- Forwarded message -----

**From:** Bremmer, Ian (b) (6)  
**Date:** Thu, Dec 27, 2012 at 9:17 AM  
**Subject:** eg update  
**To:** Vinton Cerf (b) (6)

dear vint,

on january 7th, we'll be putting out our annual "top risks" report for 2013. and so between christmas and the new year, it's a good time to look back over the past year and see how we did. if you'd like to keep score, [click here for the original 2012 report](#): (we like to keep it up on our website all year, helps to keep everybody honest).

the big story from the past year is not the risks but the red herrings. everyone thought 2012 was going to be a story of **big transitions**--with the united states, china, russia and france leading the way with big changes in leadership. and as it turned out, none of them mattered. the united states went from obama and a divided congress to...obama and a divided congress. china had nine incremental reformers ruling by consensus on the politburo standing committee...they now have seven, committed to much the same policy. russia's leadership shifted places, but governing went from putin to...putin. nothing to see there. and even in france, where an angela-merkel-supported nikolas sarkozy reelection bid was brought down by francois hollande and the socialist party, policy hasn't moved much--certainly not with regard to the eurozone (where hollande remains just as committed as his predecessor) and, at least to date, not so much on economic reform. indeed, the one election that ended up mattering the most hadn't been scheduled back in january-japan's--where a sweeping victory for shinzo abe and his liberal democratic party is likely to have a much greater impact on domestic economic and foreign policy than any of the other contests this year.

so much for that. despite about eight covers from the economist that showed the euro in various states of implosion/explosion, the **eurozone breakup** (and even its ugly stepsister, "grexit") was nothing of the sort. it's been by no means an easy year in europe, with record unemployment on a continent that slipped back into recession. but with chancellor merkel boasting approval ratings approaching 70% and a strong european central bank led by mario monti, support for tighter eurozone integration has been unwavering. the bet to make in 2012 was firmly against euro meltdown. hope you joined us in that.

and the much vaunted **china hard landing**? in 2012 that seemed to worry just about everybody but beijing. chinese leadership held firm to their state-centric economic growth model, resisted international pressure for further, faster "opening up," and eschewed massive subsidy. the economy duly slowed on the back of lower international demand, but a hard landing was never remotely in the cards. and china now stands poised to break 8% again for 2013...and 2014 too. if there's a problem, it's with what happens when china keeps growing and doesn't start fundamentally reforming its economic and political model--that's a growing risk for china as it manages changing domestic expectations as well as an increasingly hostile international environment.

in short, for the big stories, it was a year of kicking the can down the road. the americans, the europeans, and the chinese all avoided big trouble (presuming we're right about this whole fiscal cliff debacle--we're still expecting a deal)...and just as equally avoided breakthrough. looking at the biggest macro issues, 2012 was decidedly meh.

\* \* \*

looking at the top political risks, we opened the report claiming that 2012 represented **the end of the 9/11 era**. much as it pains me to say it, i suspect we'll look back at the newtown school massacre as the event that brought an end to the "war on terror"; with gun control and related domestic challenges eclipsing terrorism as the foremost security issue for the united states.

the trend has been much broader than that, of course. we expected geopolitics would move away from international security issues and be consumed more with domestic and economic trends. that's certainly been the case. the united states is out of iraq, and growing governance trouble --and violence--isn't going to lead the americans (or anyone else) to return. afghanistan is steadily deteriorating, while (and in part because) the united states plans for imminent exit. that's led to

exceptionally little criticism of the obama administration, and didn't even make speaking points in the presidential election foreign policy debate. libya drove headlines because of the attacks on the american consulate in benghazi, but mostly as a mechanism to derail susan rice's secretary of state bid, not to suggest the united states should be doing any more in libya. and on syria? russian foreign minister sergey lavrov suggested this weekend that the west was praying that his country and china continued their opposition to intervention...because they had no plans for removing assad and/or otherwise resolving the crisis themselves.

the united states is a growing part of a g-zero world: carrying a lighter footprint, spending much less time talking about international security and the war on terror (an irony given that al qaeda, though still a shell of its former self, strengthened somewhat in 2012). other countries --russia, china, qatar, saudi arabia--are starting to call the united states out on it, while steering clear of leadership challenges themselves.

from the other side, we also said "politics was moving markets as never before." i'd argue this is the single biggest takeaway since the 2008 financial crisis -states are playing a far greater role in the international marketplace. that's necessarily slowing growth, leading to more inefficiency and volatility. in part it's because of the growing role of emerging markets (and china in particular) in the world economy; in part it's developed governments' reaction to the financial crisis; in part it's geopolitical creative destruction/the g-zero/and the new age of metternich. but we definitely got there in 2012. [click here for a great piece](#) on this last week from chrystia freeland in the new york times.

\*\*\*

to do a quick "round the world" --**the middle east and the "g-zero"** was probably the most obvious call for 2012 (and not going away anytime soon). syria has become the poster child for the new world order, but regional tension s--especially sectarian conflict causing greater internal instability in a host of countries, and expanding proxy war in the region -has become a key trend.

**regional conflict in asia** has picked up as well, with the american "pivot" to asia meeting increasingly headlong against a more assertive china, especially around security issues in the east and south china sea. that's had by far the greatest market impact on china-japan tensions, but it's been an issue of growing economic concern across southeast asia as well...even leading to a faster than expected opening up of

myanmar.

**egypt** has actually fared a little better than expected. risks were on the money, but newly elected president mohammed morsi has managed a combination of hardball and shrewd politics--sidelining and antagonizing secular opposition while keeping strong support of his muslim brotherhood base...and working well with the military. morsi may not have many friends outside of egypt, but all sorts of international players are rooting for him, given egypt's regional importance and how badly the rest of the middle east is going. all of this means that israel is trying to sit tight; turkey is closely engaged with egypt diplomatically; while the saudis, qataris, americans and the imf are all reaching out to provide economic support. there are still plenty of things that can go badly wrong, and morsi has created more than his share of enemies. but egypt could've been worse.

elections in **venezuela** returned a strong victory for the ailing hugo chavez, but only more uncertainty for an economy he's in no position to improve. those risks are continuing to play out. the political situation in **pakistan** has continued to deteriorate, with growing violence and assassinations of political leaders, and no prospect for stability in governance soon. the geopolitics aren't as explosive: the af-pak problems haven't impacted india-pakistan relations in a meaningful way...or brought in china. and if anything, the us withdrawal from afghanistan may help normalize us-pakistan relations (as they help to set expectations more reliably). it's not making headlines (in line with 'the end of the 9/11 era' heightening us focus on domestic affairs), but that shouldn't make us sit more easily with the outcomes. populism has marked an unfortunate year for south africa, where governance has taken a backseat to political infighting in the african national congress (anc), following months of strikes, corruption scandals, and growing disaffection from the country's poor.

the biggest miss of the year was **north korea**, where not only did we have a transition without significant bumps along the way, but the new 28-year-old kim jong un has actually presided over a transition that, so far, has been surprisingly stable and possibly even benign. there's been more transparency and less incendiary rhetoric. even provocative moves (like a recent missile launch) have been planned to limit the prospect of escalation. i clearly expected worse from the most totalitarian regime in the world. thankfull y, it didn't happen.

\* \* \*

and with that, i hope you are having a lovely holiday break. i



shall duly look forward to sending you next year's "top risks",  
with suitable attendant fanfare...it all starts january 7th.

a very merry christmas and happy new year to you,  
ian

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**From:** Stebbins, Michael J.  
**Sent:** Wednesday, May 01, 2013 10:23 AM  
**To:** 'Anurag Acharya'  
**Subject:** RE: repository for federally funded research articles

Hi Anurag,

The USDA has two buildings on Independence avenue. We will be in the south building, 1400 Independence Ave SW and 12th Street SW right near to the Smithsonian Metro Stop (Independence Ave Exit). The Room Number is 3109 (on the 3rd Floor). Will you be able to share your slides later today so I can distribute them to those people who will be joining us by phone?

Kind Regards,  
Mike

**From:** Anurag Acharya [mailto: (b) (6)]  
**Sent:** Tuesday, April 30, 2013 8:41 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: I do need to know where the meeting would be held :) Would be hard to attend/present otherwise...

I tried searching for the meeting online, no luck. Would appreciate a quick note. Thanks.

anurag

On Sat, Apr 27, 2013 at 1:35 PM, Anurag Acharya (b) (6) wrote:

Hi Mike: could you send me the address for this week's meeting? You had mentioned USDA. Would that mean the National Agricultural Library or some place else with in the Beltsville campus?

anurag

On Wed, Apr 24, 2013 at 11:41 AM, Stebbins, Michael J. (b) (6) wrote:  
Great. Talk to you soon.

---

**From:** Anurag Acharya [mailto: (b) (6)]  
**Sent:** Wednesday, April 24, 2013 02:38 PM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

In 5 mins? I will be a (b) (6) (conf room direct number). If that doesn't work, my cell number is (b) (6)

anurag

On Wed, Apr 24, 2013 at 11:26 AM, Stebbins, Michael J. (b) (6) wrote:

Hey there,

Just tried to call. Let me know when you are free.

Regards,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Wednesday, April 24, 2013 11:50 AM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: today, 10:30am-12:30pm and 3-5pm would work; tomorrow, 9-10, noon-5pm. all times pacific.

anurag

On Wed, Apr 24, 2013 at 6:45 AM, Stebbins, Michael J. (b) (6) wrote:

Thanks. Do you have time for a quick chat later today or tomorrow?

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Monday, April 15, 2013 5:49 PM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: checking in to see if you had had a chance to discuss possible dates for a presentation with the group? I have some possible family travel coming up in mid -late May, nailing this down would help us scheduling-wise. Thanks.

anurag

On Tue, Apr 9, 2013 at 12:41 PM, Anurag Acharya (b) (6) wrote:

On Thu, Apr 4, 2013 at 9:30 AM, Anurag Acharya (b) (6) wrote:

On Thu, Apr 4, 2013 at 9:13 AM, Stebbins, Michael J. (b) (6) wrote:

Fantastic. I will discuss the dates with the group today and see what openings exist. We are juggling a number of presentations.

Hi Mike: any idea which dates would work? I will be in Toronto on 22 -23 speaking at the annual conference of library consortia, so coming over to DC would be easier that week than others.

cheers,

anurag

How is next week looking for you?

Mornings 9am-1pm Pacific would work all days. Later in the day, 2pm -3pm Pacific would work on Monday, Tuesday, and 3-5pm Pacific on Wednesday, Thursday, Friday.

cheers,

anurag

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Thursday, April 04, 2013 3:42 AM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: it was really good to sync up today. I would like to take you up on the offer to speak to the interagency group - to present the argument for a centralized repository and to describe our proposal in detail.

You had mentioned that the group meets on thursdays. Would April 25th Thursday work? If not, the following thursday (May 2nd)? I was initially trying to make April 18th work but we just moved from LA to Palo Alto - which makes for a long TODO list, as always....

Would be good to chat again sometime this week or next and discuss what would be good to cover in the presentation.

cheers,

anurag

On Tue, Apr 2, 2013 at 3:39 PM, Anurag Acharya (b) (6) wrote:

Sounds good. I will be a (b) (6)

anurag

On Tue, Apr 2, 2013 at 3:21 PM, Stebbins, Michael J. (b) (6) wrote:

How about tomorrow at 530pm Eastern?

**From:** Anurag Acharya [mailto:(b) (6)]

**Sent:** Tuesday, April 02, 2013 2:17 PM

**To:** Stebbins, Michael J.

**Subject:** Re: repository for federally funded research articles

Hi Mike: looks like we missed each other. Should we reschedule? Any time after 10am Pacific/1pm Eastern would work for me this week. Next week, 10am -2pm Pacific would work Mon->Thurs and 10-1pm Friday.

cheers,

anurag

On Fri, Mar 29, 2013 at 12:51 PM, Anurag Acharya (b) (6) wrote:

Hi Mike: thanks for the quick response! Sorry to interrupt you on your vacation :(

Tuesday 1pm Eastern/10am Pacific would work for me. If you would prefer to call, I will be at (b) (6)  
If it would be easier for me to call, let me know the number to call.

anurag

On Fri, Mar 29, 2013 at 12:18 PM, Stebbins, Michael J. (b) (6) wrote:

Sorry. I am on vacation. How about Tuesday? I am open from 1 -3.

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 29, 2013 02:46 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: just checking in to see if we are on for talking some time next week.

cheers,  
anurag

On Tue, Mar 26, 2013 at 12:46 PM, Anurag Acharya (b) (6) wrote:

Sure. Mon/Tues/Thurs/Fri morning Pacific would work for me next week. If none of these work for you, let me know some times that would.

cheers,  
anurag

On Fri, Mar 22, 2013 at 3:38 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks Anurag,

Do you have time to talk again on the week of April 1<sup>st</sup>?

Best,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 15, 2013 9:47 PM  
**To:** Stebbins, Michael J.  
**Subject:** repository for federally funded research articles

Hi Mike: congratulations on the new OSTP policy on increasing public access to research articles funded by federal agencies!

One of the key issues for the success of the policy will be whether these articles are included in a publicly available repository. In addition to ensuring a consistent access mechanism for all users, inclusion in a repository would also help ensure archival access and long-term stewardship.

As the lead for Google Scholar, I have worked with publishers and libraries worldwide. I have also worked with most federal agencies and depts for indexing their existing collections of research articles. Based on my experience, I would like to share recommendations/proposals regarding repositories for federally funded research articles.

I am hoping this is of interest. I would be happy to visit or join a conversation.

cheers,

anurag



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**From:** Astro Teller (b) (6)  
**Sent:** Wednesday, January 02, 2013 4:42 PM  
**To:** Kalil, Thomas A.; Will Patrick; Kathy Cooper  
**Cc:** Mielke, Dawn M.  
**Subject:** Re: Registration for Solve for X

Hi Thomas,

Sorry for the delay. Will and/or Kathy can help with this.

Cheers!

A

On Mon, Dec 31, 2012 at 1:27 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Astro:

Happy New Year!

All my travel needs to be approved by our General Counsel. Is there someone Dawn can work with to get the relevant info?

Thanks!

Tom

**From:** Astro Teller [mailto:(b) (6)]  
**Sent:** Thursday, December 20, 2012 1:21 PM  
**To:** Kalil, Thomas A.

**Subject:** Registration for Solve for X

Hey Tom,

Can you take a moment and register ([register here](#))?

Thanks!

- Astro

--

- Astro

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**From:** Kathy Cooper (b) (6)  
**Sent:** Wednesday, January 02, 2013 4:56 PM  
**To:** Astro Teller  
**Cc:** Kalil, Thomas A.; Will Patrick; Mielke, Dawn M.  
**Subject:** Re: Registration for Solve for X

Hi Thomas and Dawn,

Thank you for registering! Our travel representatives will be in touch shortly to help with your travel arrangements.

Happy New Year,  
Kathy

On Wed, Jan 2, 2013 at 1:41 PM, Astro Teller (b) (6) wrote:  
Hi Thomas,

Sorry for the delay. Will and/or Kathy can help with this.

Cheers!

A

On Mon, Dec 31, 2012 at 1:27 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Astro:

Happy New Year!

All my travel needs to be approved by our General Counsel. Is there someone Dawn can work with to get the relevant info?

Thanks!

Tom

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**Sent:** Thursday, December 20, 2012 1:21 PM  
**To:** Kalil, Thomas A.

**Subject:** Registration for Solve for X

Hey Tom,

Can you take a moment and register ([register here](#))?

Thanks!

- Astro

--

- Astro

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**From:** Stebbins, Michael J.  
**Sent:** Wednesday, May 01, 2013 11:47 AM  
**To:** George Ivanov (b) (6)  
**Subject:** FW: Public Access: Public Comment meetings, May 14-17, 2013 Federal Register notice  
**Attachments:** FR 2013-10298.pdf

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**From:** Friedlander, Amy [mailto:(b) (6)]  
**Sent:** Wednesday, May 01, 2013 9:57 AM  
**To:** Stebbins, Michael J.  
**Cc:** Gutmann, Myron P.; Gabriel, Clifford J.; Jackson, Lisa M.; Plimpton, Suzanne H.  
**Subject:** Public Access: Public Comment meetings, May 14 -17, 2013 Federal Register notice

Dear Michael,

The Federal Register notice is attached. Do you want to circulate it to both groups with a note asking people to let us know if there are corrections to be made so that we publish a correction in the FR?

Thanks,

Amy

for any appropriate cooperation with LSC or other entity authorized to receive such cooperation. The proposed change to the grant assurance requires recipients to provide the notification to staff and volunteers in writing.

Grant Assurance #17 requires LSC recipients to maintain all records pertaining to the grant and supporting documents sufficient for LSC to audit those records. The proposed change to the grant assurance requires recipients to follow the record retention requirements provided in Appendix II of the Accounting Guide for LSC Recipients (2010 Edition).

The proposed LSC grant assurances for calendar year 2014 funding, in redline format indicating the proposed changes to the current "LSC 2013 Grant Assurances," are at <http://grants.lsc.gov/sites/default/files/Grants/ReferenceMaterials/2014-GrantAssurances-Proposed.pdf>

Interested parties are requested to provide comments concerning the proposed grant assurances for 2014 grant awards within a period of thirty (30) days from the date of publication of this notice.

Dated: April 25, 2013.

**Lynn A. Jennings,**  
Vice President for Grants Management.

[FR Doc. 2013-10243 Filed 4-30-13; 8:45 am]

BILLING CODE 7050-01-P

## NATIONAL SCIENCE FOUNDATION

### Advisory Committee for Engineering; Notice of Meeting; Correction

This document corrects a notice that was published in the **Federal Register** on April 24, 2013 on page 24239. The subject heading of the document should read as follows:

Advisory Committee for Computer and Information Science and Engineering, #1115; Notice of Meeting

All other information in the April 24, 2013 notice remains the same.

Dated: April 25, 2013.

**Susanne Bolton,**  
Committee Management Officer.

[FR Doc. 2013-10197 Filed 4-30-13; 8:45 am]

BILLING CODE 7555-01-P

## NATIONAL SCIENCE FOUNDATION

### Public Access to Federally Supported Research and Development Data and Publications: Two Planning Meetings

**AGENCIES:** National Science Foundation, Department of Agriculture, National Institute of Standards and Technology,

National Technical Information Service, National Oceanic and Atmospheric Administration, Department of Defense, Department of Education, Department of Energy, Department for Health and Human Services, Agency for Healthcare Research and Quality, Centers for Disease Control and Prevention, National Institutes of Health, United States Food and Drug Administration, United States Geological Survey, Department of Homeland Security, Department of Transportation, Department of Veterans Affairs, Environmental Protection Agency, Institute of Museum and Library Services, National Aeronautics and Space Administration, National Endowment for the Humanities, Office of the Director of National Intelligence, Smithsonian Institution, United States Agency for International Development.

**ACTION:** Notice of Open Meetings.

**SUMMARY:** This notice announces meetings organized by the National Science Foundation with the cooperation of other agencies (listed above).

**DATES:** May 14, 2013, 9 a.m.–5 p.m.; May 15, 2013, 9 a.m.–12 p.m.; May 16, 2013, 9 a.m.–5 p.m.; May 17, 2013, 9 a.m.–12 p.m.

**ADDRESSES:** Auditorium, NATIONAL ACADEMY OF SCIENCES, 2101 Constitution Avenue NW., Washington, DC 201418 ([http://sites.nationalacademies.org/DBASSE/CurrentProjects/DBASSE\\_082378](http://sites.nationalacademies.org/DBASSE/CurrentProjects/DBASSE_082378))

**FOR FURTHER INFORMATION CONTACT:** Dr. Myron Gutmann, National Science Foundation, Directorate for Social, Behavioral and Economic Sciences, 4201 Wilson Boulevard, Arlington, Virginia 22230. Phone (703) 292-8700, fax (703) 292-9803; Dr. Clifford J. Gabriel, National Science Foundation, Office of the Director, 4201 Wilson Boulevard, Arlington, Virginia 22230. Phone (703) 292-8002, fax (703) 292-9232. The most current information concerning these meetings can be found on the Web site: [http://sites.nationalacademies.org/DBASSE/CurrentProjects/DBASSE\\_082378](http://sites.nationalacademies.org/DBASSE/CurrentProjects/DBASSE_082378)

#### SUPPLEMENTARY INFORMATION:

**Purpose of the Meetings:** To seek broad input from concerned stakeholder groups concerning issues related to expanding public access to the results of Federally funded R&D, including peer-reviewed journal articles and digital scientific data, as part of the planning process called for in the Memorandum on Expanding Public Access to the Results of Federally Funded Research, released by the Office of Science and

Technology Policy on February 22, 2013 (Section 2).

**Summary:** On behalf of a group of agencies, the National Academy of Sciences has organized 2 two-day meetings, one on public and a second on data, to allow members of the public and representatives of concerned stakeholder groups and communities to voice their concerns about issues related to public access to the results Federally funded R&D and thus to allow agencies which are covered by the February 22, 2013 memorandum and others which are complying with its terms voluntarily to consider these views as the agencies develop their respective plans, which are due to OSTP on August 22, 2013.

**Public Participation:** The meetings are open to the public. However, registration is required through the Web site: [http://sites.nationalacademies.org/DBASSE/CurrentProjects/DBASSE\\_082378](http://sites.nationalacademies.org/DBASSE/CurrentProjects/DBASSE_082378)

**Transcript:** A transcript of the meetings and written comments will be posted to the Web site within 60 days: [http://sites.nationalacademies.org/DBASSE/CurrentProjects/DBASSE\\_082378](http://sites.nationalacademies.org/DBASSE/CurrentProjects/DBASSE_082378)

Issued in Washington, DC on April 26, 2013.

**Suzanne Plimpton,**  
Reports Clearance Officer, National Science Foundation.

[FR Doc. 2013-10298 Filed 4-30-13; 8:45 am]

BILLING CODE 7555-01-P

## NUCLEAR REGULATORY COMMISSION

[Docket No.: 40-8452; NRC-2012-0095]

### License Amendment for Anadarko Petroleum Corporation, Bear Creek Facility, Converse County, Wyoming

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Environmental assessment and finding of no significant impact; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is considering the issuance of a license amendment to Source Materials License SUA-1310 issued to Anadarko Petroleum Corporation (APC or the licensee) to authorize alternate concentration limits (ACLs) at its point of compliance (POC) wells and the deletion of License Condition (LC) No. 47 for its Bear Creek Uranium Mill facility in Converse County, Wyoming. The NRC has prepared an environmental assessment (EA) for this proposed action in accordance with its regulations. Based

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**From:** Stebbins, Michael J.  
**Sent:** Wednesday, May 01, 2013 12:12 PM  
**To:** (b) (6)  
**Subject:** Re: repository for federally funded research articles

Fantastic. Feel free to call me if you get lost (b) (6) There will be two presentations tomorrow, one from you and one from Mike Carroll on licensing. If it's alright with you, Mike will go first. Can you also bring your presentation on a USB key?

Best,  
Mike

---

**From:** Anurag Acharya [mailto: (b) (6)]  
**Sent:** Wednesday, May 01, 2013 12:06 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: thanks!

I used to live close to their beltsville campus when I was at UMD, didn't know about USDA buildings near the mall.

I will send you my slides tonight.

See you tomorrow.

anurag

On Wed, May 1, 2013 at 7:22 AM, Stebbins, Michael J. (b) (6) wrote:

Hi Anurag,

The USDA has two buildings on Independence avenue. We will be in the south building, 1400 Independence Ave SW and 12th Street SW right near to the Smithsonian Metro Stop (Independence Ave Exit). The Room Number is 3109 (on the 3rd Floor). Will you be able to share your slides later today so I can distribute them to those people who will be joining us by phone?

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anurag

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anurag

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**Sent:** Monday, April 15, 2013 5:49 PM

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**To:** Stebbins, Michael J.

**Subject:** Re: repository for federally funded research articles

Hi Mike: just checking in to see if we are on for talking some time next week.

cheers,

anurag

On Tue, Mar 26, 2013 at 12:46 PM, Anurag Acharya (b) (6) wrote:

Sure. Mon/Tues/Thurs/Fri morning Pacific would work for me next week. If none of these work for you, let me know some times that would.

cheers,

anurag

On Fri, Mar 22, 2013 at 3:38 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks Anurag,

Do you have time to talk again on the week of April 1<sup>st</sup>?

Best,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 15, 2013 9:47 PM  
**To:** Stebbins, Michael J.  
**Subject:** repository for federally funded research articles

Hi Mike: congratulations on the new OSTP policy on increasing public access to research articles funded by federal agencies!

One of the key issues for the success of the policy will be whether these articles are included in a publicly available repository. In addition to ensuring a consistent access mechanism for all users, inclusion in a repository would also help ensure archival access and long-term stewardship.

As the lead for Google Scholar, I have worked with publishers and libraries worldwide. I have also worked with most federal agencies and depts for indexing their existing collections of research articles. Based on my experience, I would like to share recommendations/proposals regarding repositories for federally funded research articles.

I am hoping this is of interest. I would be happy to visit or join a conversation.

cheers,

anurag

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**From:** Edelman, R. David  
**Sent:** Tuesday, May 07, 2013 6:29 PM  
**To:** George Ivanov  
**Subject:** RE: Quick Call Later This Week

George,

Thanks, would be my pleasure, though this week is slammed. What're the topics? Will talk to my team about what can open up.

-rD

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Tuesday, May 07, 2013 4:45 PM  
**To:** Edelman, R. David  
**Subject:** Quick Call Later This Week

Hi David,

Thank you for taking the time to meet with everyone earlier today. If you have some time later this week, we should catch up with a quick call to discuss a number of specific areas of interest. Friday is wide open for me but let me know which day/time might work best for you.

Sincerely,  
George

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)



**From:** Johanna Shelton (b) (6)  
**Sent:** Thursday, January 03, 2013 1:25 PM  
**To:** Edelman, R. David  
**Subject:** Re: Release

just sent you our stuff - here is FTC release

FTC press release:  
<http://www.ftc.gov/opa/2013/01/google.shtm>

On Thu, Jan 3, 2013 at 1:03 PM, Edelman, R. David (b) (6) wrote:

Johanna,

I hear big news coming out momentarily. Do you have the release and any accompanying materials from Google's side? Obviously, lots of interest here at the WH.

Thanks,

-David

◆◆◆◆◆

R. David Edelman

Senior Advisor for Internet Policy

ph: (202) (b) (6) | bb: (202) (b) (6)

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

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**From:** Johanna Shelton (b) (6)  
**Sent:** Thursday, January 03, 2013 1:25 PM  
**To:** Edelman, R. David  
**Subject:** FTC action

Please let me know if you have any questions -

Our blog post:  
<http://googleblog.blogspot.com/2013/01/the-federal-trade-commission-closes-its.html>

Our commitment letter:  
[http://static.googleusercontent.com/external\\_content/untrusted\\_dlcp/www.google.com/en/us/pdf/google\\_ftc\\_dec2012.pdf](http://static.googleusercontent.com/external_content/untrusted_dlcp/www.google.com/en/us/pdf/google_ftc_dec2012.pdf)

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Johanna Shelton  
Senior Policy Counsel  
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Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

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**From:** Edelman, R. David  
**Sent:** Wednesday, May 08, 2013 11:47 PM  
**To:** George Ivanov  
**Subject:** RE: Quick Call Later This Week

George,

How's tomorrow late afternoon? Things are a bit fluid right now, but give me a sense of your timing and I'll ring when I'm not across the street.

-rD

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Wednesday, May 08, 2013 1:54 PM  
**To:** Edelman, R. David  
**Subject:** Re: Quick Call Later This Week

Thank you David. I'm primarily interested in discussing privacy and law enforcement issues.

Sincerely,  
George

On Tue, May 7, 2013 at 6:28 PM, Edelman, R. David (b) (6) wrote:

George,

Thanks, would be my pleasure, though this week is slammed. What're the topics? Will talk to my team about what can open up.

-rD

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Tuesday, May 07, 2013 4:45 PM  
**To:** Edelman, R. David  
**Subject:** Quick Call Later This Week

Hi David,

Thank you for taking the time to meet with everyone earlier today. If you have some time later this week, we should catch up with a quick call to discuss a number of specific areas of interest. Friday is wide open for me but let me know which day/time might work best for you.

Sincerely,

George

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George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6)

(b) (6)

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**From:** Johanna Shelton (b) (6)  
**Sent:** Thursday, January 03, 2013 1:33 PM  
**To:** Edelman, R. David  
**Subject:** Re: FTC action

let me know if you have any questions

On Thu, Jan 3, 2013 at 1:25 PM, Edelman, R. David (b) (6) wrote:

I'm watching the webcast now. Thanks for the links!

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Thursday, January 03, 2013 1:25 PM  
**To:** Edelman, R. David  
**Subject:** FTC action

Please let me know if you have any questions -

Our blog post:

<http://googleblog.blogspot.com/2013/01/the-federal-trade-commission-closes-its.html>

Our commitment letter:

[http://static.googleusercontent.com/external\\_content/untrusted\\_dlcp/www.google.com/en/us/pdf/google\\_ftc\\_dec2012.pdf](http://static.googleusercontent.com/external_content/untrusted_dlcp/www.google.com/en/us/pdf/google_ftc_dec2012.pdf)

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**From:** Dorgelo, Cristin  
**Sent:** Friday, May 10, 2013 10:47 AM  
**To:** (b) (6)  
**Subject:** White House Hangout on Grand Challenges

Hi Sebastian!

On May 16 next week, the White House will host a Google Hangout to discuss Grand Challenges, ambitious goals on a national or global scale that capture the imagination and demand advances in innovation and breakthroughs in science and technology. Grand Challenges are an important element of President Obama's Strategy for American Innovation.

As a leader in this area, we'd like to invite you to participate in our Google Hangout via remote webcam. In particular, we'd like you to focus on Google's work on the self-driving car. Administration participants include Tom Kalil and me.

Logistically, we'll need you for no more than 45 minutes on May 16<sup>th</sup>, sometime in the early afternoon EDT (looking to go on air for 35-45 minutes—exact time TBD). If you are willing to participate and have time on the 16<sup>th</sup>, all you'll need is a laptop or desktop computer, a webcam, and an internet connection. And if you have a logistical/technical point of contact in your office, please connect them with us. (For reference, here's a White House hangout we did recently on the [Maker Movement](#).)

Can you let me know by Monday if you are available that afternoon and interested in participating?

If so, awesome! If not, I'll reach out to Astro Teller of Google[x], unless there is someone else at Google you'd recommend.

Thanks!

Cristin

**Cristin Dorgelo**  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

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**From:** Dorgelo, Cristin  
**Sent:** Friday, May 10, 2013 3:52 PM  
**To:** Laura Nelson  
**Cc:** Sergio Gandara  
**Subject:** RE: White House Hangout on Grand Challenges

Great!

We're looking at either 1 PM or 2 PM EDT, and I'll get back to you soon with a final time and more details.

Best,  
Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

**From:** Laura Nelson [mailto:(b) (6)]  
**Sent:** Friday, May 10, 2013 2:21 PM  
**To:** Dorgelo, Cristin  
**Cc:** Sergio Gandara  
**Subject:** Re: White House Hangout on Grand Challenges

Hi Cristin,

I would be happy to help set this up! Sebastian would be happy to attend via Google Hangout on Thursday 5/16. Could you let me know what time frame we are looking at? after 1pm PDT/ 4pm EDT would work, and Sebastian could also do 11am PDT/ 2pm EDT and earlier. Please let me know what time would work best, and I can help coordinate.

Thanks and looking forward to hearing back from you.

Laura Nelson | Udacity | o (b) (6) | (b) (6) | (b) (6)

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More about Udacity:

[Udacity](#) | [Forbes](#) | [New York Times](#) | [Wired](#)

On Fri, May 10, 2013 at 7:57 AM, Sebastian Thrun (b) (6) wrote:



----- Forwarded message -----

From: "Dorgelo, Cristin" (b) (6)  
Date: May 10, 2013 7:46 AM  
Subject: White House Hangout on Grand Challenges  
To: (b) (6) (b) (6)  
Cc:

Hi Sebastian!

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Thanks!

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

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**From:** Edelman, R. David  
**Sent:** Friday, May 10, 2013 4:48 PM  
**To:** 'George Ivanov'  
**Subject:** RE: Quick Call Later This Week

George,

Sorry, was pulled across the street most of the afternoon. Should we plan to chat over the weekend, or early next week?

-----Original Message-----

**From:** George Ivanov (b) (6)  
**Sent:** Thursday, May 09, 2013 08:28 AM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** RE: Quick Call Later This Week

Hi David,

The late afternoon is wide open for me from 3 -6. You can reach me on my desk line a (b) (6) or on my cell phone a (b) (6) Thank you.

Sincerely,  
George

On May 8, 2013 11:46 PM, "Edelman, R. David" (b) (6) wrote:

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> George,  
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> How's tomorrow late afternoon? Things are a bit fluid right now, but give me a sense of your timing and I'll ring when I'm not across the street.  
>  
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> -rD  
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>  
> From: George Ivanov [mailto: (b) (6)]  
> Sent: Wednesday, May 08, 2013 1:54 PM  
> To: Edelman, R. David  
> Subject: Re: Quick Call Later This Week  
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> Thank you David. I'm primarily interested in discussing privacy and law enforcement issues.

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> On Tue, May 7, 2013 at 6:28 PM, Edelman, R. David (b) (6) wrote:

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> From: George Ivanov [mailto:(b) (6)]

> Sent: Tuesday, May 07, 2013 4:45 PM

> To: Edelman, R. David

> Subject: Quick Call Later This Week

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> George Ivanov

> Policy Analyst | Google Inc.

> 1101 New York Ave NW

> Washington, DC 20005

(b) (6)

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> George Ivanov

> Policy Analyst | Google Inc.

> 1101 New York Ave NW

> Washington, DC 20005

(b) (6)

(b) (6)

**From:** Edelman, R. David  
**Sent:** Monday, May 13, 2013 11:11 AM  
**To:** George Ivanov  
**Subject:** RE: Quick Call Later This Week

George,

Will there be multiple on the line? If not please just ring me directly, as I may be mobile.

$-r_D$

<><><><><><><><><>

**R. David Edelman**  
Senior Advisor for Internet, Innovation, and Privacy  
direct: (202) (b) (6) | topline: (202) (b) (6)

**From:** George Ivanov [mailto:[\(b\) \(6\)](#)]  
**Sent:** Monday, May 13, 2013 11:10 AM  
**To:** Edelman, R. David  
**Subject:** Re: Quick Call Later This Week

Great. We can use the following dial-in information (b) (6) (Conference Code: 7327891852).

Sincerely,  
George

On Fri, May 10, 2013 at 6:06 PM, Edelman, R. David (b) (6) wrote:  
3-3:30 on Monday. Speak then

-----Original Message-----

**From:** George Ivanov (b) (6)  
**Sent:** Friday, May 10, 2013 04:52 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: Quick Call Later This Week

Hi David,

No problem. Any time on Monday from 11-1 or 3-4 would work. Have a good weekend!

Sincerely,  
George

On Fri, May 10, 2013 at 4:48 PM, Edelman, R. David (b) (6) wrote:

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> Sent: Tuesday, May 07, 2013 4:45 PM  
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George Ivanov

Policy Analyst | Google Inc.

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Washington, DC 20005

(b) (6)

(b) (6)

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**From:** Vint Cerf (b) (6)  
**Sent:** Monday, January 07, 2013 8:15 AM  
**To:** Alec Ross; Ari Schwartz; bruce andrews; francisco sanchez; Jane Lute; Larry Strickling; mark weatherford; Sapiro, Miriam; pat gallagher; Philip L Verveer; Rich O'Lear; Kalil, Thomas A.  
**Subject:** Fwd: eg update top risks 2013

----- Forwarded message -----

**From:** Bremmer, Ian (b) (6)  
**Date:** Mon, Jan 7, 2013 at 8:04 AM  
**Subject:** eg update top risks 2013  
**To:** Vinton Cerf (b) (6)

dear vint,

it's 2013. we've made it. for those of us watching from the united states, the last few days of 2012 (to say nothing of the first couple of this year) were touch and go. but here we are.

political risk has entered our vocabulary. whether staring over the fiscal cliff, battling the eurozone crisis, trying to profit from a rising china, or taking cover from the middle east; around the world, politics has come to dominate market outcomes. geoeconomics now sits alongside geopolitics in matters of war, peace, and prosperity. economic statecraft is a key component of global foreign policy. state capitalism is a principal challenge to the free market.

that's been increasingly true for the last four years because of the way perceptions of political risk have spread across the developed world. since the financial crisis, what did or didn't happen in washington has had an outsized impact on market outcomes. so too the reaction of european governments and pan-european political institutions to a crippling, systemic eurozone crisis. we've seen a succession of five governments in japan digging out, first from the recession and then from the largest-scale natural disaster the world has seen in decades.

in responding to the worst economic slowdown since the great depression, it's no surprise that political risk has come to the fore. dramatic government action was called for, and global markets moved to price in the resulting uncertainty. but looking to 2013, political risk in the developed world is now

overstated. despite the chaos in congress --which we'll surely see much more of in the coming year--concerns about the fiscal cliff in the united states have been overplayed. so too the fragmentation of the eurozone. and the impact of continued zero growth in japan. the takeaway: the world's advanced industrialized democracies are much more resilient than feared, and their downside risk is "bounded." indeed, in the aftermath of a major crisis, most are even "anti-fragile."

when i started eurasia group in 1998, we focused on emerging markets. my definition of emerging markets served just as well as a business plan: "those countries where politics matters at least as much as economics to market outcomes." that definition has seemed quaint with the eurozone in crisis and us credit ratings downgraded. but it's still the case.

indeed, it's more important now than ever before. for the past five years, emerging markets have accounted for two-thirds of the world's growth. by 2020, that number is expected to grow to 75%. the heightened political risk resulting from that change would be a primary challenge even in a geopolitically stable context of us-led globalization. but in a g-zero world with an absence of global leadership and geopolitics very much "in play," everyone will face more volatility. that's going to prove a much bigger problem for emerging markets than the developed world. in 2013, the first true post-financial crisis year, we'll start to see that more clearly.

and so the top risk this year is:

### **1 - emerging markets: not less risky**

for the past four years, we've been uncritically thankful for the emerging markets. set against what seemed like crippled developed countries, emerging market growth kept trade moving, commodities prices afloat, and offered attractive investment opportunities. but in a tougher overall growth environment where the us economy looks like a better bet and the potential for explosive risk in the eurozone goes away, concerns over emerging markets and their future will again receive closer attention.

emerging markets will have much more volatility and instability than the advanced industrial democracies. some still make good (if not safe) bets for the same reasons they have in the past--outsized growth potential makes "tail risk" more acceptable, but the era of emerging market abundance is finished. so in 2013, it's critical to understand that emerging market downside differs wildly from country to country, and in many of them, in marked contrast to developed markets,

that risk is "unbounded." that means we have to stop treating emerging markets (to say nothing of the increasingly suspect BRICs) as an asset class for outsized growth and instead consider which developing country governments have enough political capital to remain on track toward a more advanced stage of development. in that context, it's worth breaking down emerging markets into three broad categories:

*a - becoming developed.* these are governments with the tools to respond effectively to domestic and international challenges and continue to put policies in place that make investment more attractive over time, reducing the chances of sudden crises. many emerging markets in latin america are in this basket. in part, that's a structural advantage: the lack of geopolitical turmoil in the region and the ability of many latin american governments to "pivot" in a more fragmented globalization environment. but it's also a result of the work of three leaders who enter 2013 with significant political capital: post-lula, brazil's Dilma Rousseff; post-Uribe, Colombia's Juan Manuel Santos; and, the most exciting story, post-Calderon, Mexico's Enrique Peña Nieto--one of the only leaders in the emerging market space willing and able to advance structural economic reforms.

in the middle east, despite the domestic struggle over a new constitution and turmoil along its borders, Turkey fits in this category, thanks in part to many years of structural reform as part of an EU membership bid that will never be realized. a few Gulf states, Oman and (especially) the United Arab Emirates, have worked hard to diversify their economies and belong in this group. in Asia, South Korea and the long-lagging Malaysia and Philippines, the latter two now on track to seriously improve broad economic policy (and the Philippines starting to finally tackle pervasive corruption), get the nod. given a sudden economic shock, none of these markets has the stability or resilience of the United States, Japan, or even the European economies. but they're getting closer, and all look set to solidly perform in 2013 and beyond.

*b - still emerging--and problematically so.* these are countries with upside, but dramatically greater volatility than is generally understood--the result of lower levels of political stability (and/or unwillingness to accept domestic political risk) combined with stronger economic headwinds. a few countries that have looked particularly good in past years make this list. India is an important example, with significant long-term structural advantages but an extremely troubled political reform environment--more on this with Risk #9. Indonesia, for several years considered a star among emerging markets, now deserves considerably more caution. there, President Susilo Bambang Yudhoyono's political capital has

been steadily eroding ahead of upcoming elections, and prospects for credible economic reform have stalled.

many of the larger middle east economies, egypt and iraq in particular, also fit here. both countries have enormous potential but far more downside, given growing social discontent and political violence and a structurally troubled political environment. longer term, even much more stable countries like saudi arabia belong in this category. thailand belongs here thanks to poor existing governance against the backdrop of troubled and uncertain succession. in peru, ollanta humala has been effective in a high-growth environment, but the risk of a return to serious populism and nationalism as life gets more difficult is larger than most appreciate. south africa, where leadership has deteriorated steadily at every step from mandela, is part of this group. in 2013, we are likely to see the rise of economic populism and a decidedly negative trajectory for the country (more on that with risk #10).

then there's china, where doubling down on the present development model to safeguard stability makes us more confident on domestic economic growth--but far more worried that foreign companies and investors won't benefit from it. the investment environment will remain opaque and more oriented toward benefiting domestic players, as china's relative power balance vis-a-vis international actors becomes more apparent. uncertainty over china's short- to medium-term trajectory is an order of magnitude greater than that of any other major global economy.

*c - backsliding.* these are essentially "submerging markets," countries that are both under-performing and generating unacceptable levels of political risk. absent effective governance and facing significant economic challenges, these markets don't deserve the benefits they draw from being lumped in the emerging market category--and should be flagged accordingly.

the most notable of these countries is russia, where opportunities are diminishing on pretty much every front but strategic resource development. president vladimir putin's popularity is starting to wane, but there's no change in his hold on power nor any willingness to reconsider his statist, highly centralized, and staggeringly corrupt approach to economic development. external relations are becoming more challenging with both europe and the united states, and capital flight continues apace. it's not just hard to consider russia a "BRIC", it's hard to justifiably categorize it as a truly emerging market.

ditto many previously hailed "frontier" markets, where political risk has destroyed the credibility of governments and created much more downside. pakistan fits this description, with high-level political assassinations and an increasingly unstable government drawing less international aid and political interest. so too ukraine, with poor governance, no imf deal, and nowhere else to turn but russia. much of north africa belongs here--algeria and post-qaddafi libya, in particular. and the increasingly marginal players in latin america --venezuela, a petrostate that's teetering along with chavez's health, and argentina, with a government unwilling to improve the domestic economic or political environment.

\* \* \*

when china becomes the world's largest economy, we'll likely stop using the term emerging markets altogether. but until then, it's worth understanding that we're no longer talking about a definable asset class. a number of these countries will contribute the bulk of the world's political risk in 2013.

## **2 - china vs information**

take a serious look at china and the risks come faster than you can process: labor scarcity, pensions, inefficiency of state owned enterprises, conflicts in the east and south china seas, clean water availability, clean air, food and commodity scarcity (and prices). take your pick, there's more than enough to worry about.

none of these are new. more importantly, none of them are imminent threats to stability. as the chinese government has shown--very effectively for more than three decades --they can manage a wide range of risks for longer than we think. except one. the flow of information.

cyberspace is the most effective venue for the sudden exposure of personal information--whether forced or accidental. in recent months, we've seen more and more examples of this. in the united states, nobody enjoys the privacy they used to. not new york residents with gun licenses having their addresses published after the newtown tragedy; not ever larger numbers of leaders (cia director david petraeus, federal prosecutors in louisiana, and a host of congressmen) suddenly ousted following scandals that broke online; not facebook ceo mark zuckerberg's sister randi when her private family photos got posted publicly.

in the developed world, that's an annoyance, but the same trend in china has far more serious implications. in a chinese economy that's increasingly information driven, a larger,

better educated middle class needs access to the internet as part of their work environment...and expects it as part of their daily life. some of that information is directly undermining the political legitimacy of china's top leaders.

maintaining the dominant voice in communications and information flows--and limiting online and offline information channels beyond the state--remains one of the most important political tools that the chinese communist party holds. the leadership is unaccustomed to seeing its dirty laundry online, and completely unprepared for the public accountability this new trend demands. in particular, the sudden transparency of china's top military and civilian leaders' personal and family wealth and how they wield their power poses a grave danger, one they're prepared to take extraordinary measures to manage. the widening popular discord in hong kong is a good example of where beijing is headed with its contradictory approaches to information and economics; the chances of a sharper deterioration of public confidence in government will grow sharply in that city in 2013, as hong kong becomes a liability rather than an asset for beijing.

the reaction of the chinese leadership to this threat is changing. for well over a decade, response 1.0 was the great firewall of china. while that continues to be a part of beijing's strategy (with a renewed effort to tackle firewall evasion tactics and the national people's congress just last week passing legislation that would force all internet users to register their names--to better allow government tracking), the government has given up on the idea that sensitive information will somehow be kept away from its citizens. with nearly half of china's population online, and almost 400 million microblogging and social messaging on weibo (china's twitter), the chinese government has lost that battle. instead, china vs information 2.0 means working to be the loudest voice-and to steer the conversation.

that's leading to two different policy approaches by the chinese government, both of which have significant downside implications. first, consolidation at the top and, relatedly, more risk-averse behavior. if there's one thing the chinese government has done during the current leadership transition, it's been to consolidate the leadership because they're most concerned with keeping the elite on a single page. it means slow progress on economic reform and bleak expectations for political reform, ensuring instead that the top leaders speak consistently with one voice. the biggest threat perceived by the chinese government is an unorthodoxy that brings trouble from outside. and so we expect an abundance of policy caution from beijing in 2013.

second, there is nationalism. if you can't beat 'em, join 'em. the chinese leadership can't control the online discourse, so they need to be the loudest voice online--and channel emotionally charged discussions into areas that are less threatening to beijing. from the chinese government's perspective, who should be to blame when the chinese population gets upset? others. familiar domestic "enemies" like tibetans and uighurs will see some of the scapegoating, but we'll also see a significant increase in hostility toward expatriates. anti-us sentiment in china and beijing's willingness to take on regional battles, especially with japan, are on the rise.

this threat will likely grow in coming months. if the government feels it's starting to truly lose the struggle to contain and shape information flows, they'll react with more crackdown, more arrests, and tighter control of the web. that's negative for the economy and a disaster for china's international image and "peaceful development" approach to policy--isolating china further from other countries. the most likely near-term impact is a doubling down on existing policy and sharper nationalism in the region and more broadly. china's rise--a godsend for the markets during the financial crisis--increasingly drives conflict in the post-financial crisis period. that conflict is likely to see a significant spike in 2013.

### **3 - arab summer**

it was barely more than a year ago that we were talking hopefully about an arab spring. middle east dictators were facing a wave of domestic dissent; international observers wondered whether it could be that the "end of history" from eastern europe and the former soviet union would come to the middle east. that has morphed not into "arab winter," where dictators rebound and consolidate power, but a long, hot, arab summer--with radicalized movements, sectarian and islamist, playing a much more important role.

\* \* \*

rising tensions over iran's confrontation with israel and the west are significant enough to merit their own top risk. but beyond iran, the middle east is now plagued with various overlapping tensions: sectarianism, especially an increasingly violent confrontation between sunni and shia both within and between countries; rising extremism, especially the resurgence of sunni extremism in the form of jihadist and al qaeda-related groups; regional great power tensions, as the traditional western powers, especially the united states, remain mainly on the sidelines and new actors jostle for



influence; and continued political tension and the lack of economic progress in the states that were at the forefront of the "arab spring."

at the epicenter of this cauldron lies syria where peaceful protests against president bashar al-assad evolved last year into a bloody civil war that has since become a proxy war engaging the region's shia powers --iran and lebanese hizbullah--on the one side, and sunni powers --turkey, saudi arabia and qatar--on the other. in the west, the syrian civil war is often cast as a humanitarian crisis, but in risk terms, the significance of syria is less in its humanitarian dimension than its geopolitical implications.

syria has become a magnet for jihadists after bin laden's successor, ayman al-zawahiri, declared jihad against the assad regime--the first government thus designated that was not a close american ally. tehran's decision to double down on its support for assad upped the regional stakes, especially given the increasing willingness of the regime to use airpower against (largely sunni) civilian centers. the hope in the west was that the syrian regime would crumble, split, or seek a negotiated settlement. none of that has happened, and the west is now caught between its unwillingness to get more deeply involved and its lack of an alternative strategy to address the crisis.

heading into 2013, syria's descent into chaos is spreading insecurity into iraq, jordan, and turkey, and threatens to unhinge the greater levant. rising sunni militancy in syria is spilling over into iraq's sunni triangle, and syria has again become the entry-point for foreign jihadists, challenging both the shia-dominated government in baghdad and the country's sunni political establishment. less obvious but equally challenging for iraqi stability and for the overall regional map is the emergence of a de-facto kurdish mini-zone in northern syria, whose impact is now felt across kurdish communities in turkey, iraq and iran. (reminder: the kurds were the only major group not to get their own state after the ottoman empire collapsed at the end of world war i.) in iraq, the kurdish regional government is becoming more aggressive in promoting its energy development agenda against the wishes of baghdad, and will seek to take political advantage should syria's sunni-shia proxy war spread into iraq. in response to all this, iraqi prime minister al-maliki is leaning further toward iran in his constant tight-rope walk between tehran, the regional sunni powers, and washington. this will further antagonize the saudis and turks. in a region where shia-sunni tension cannot be contained, a unified and stable iraq becomes less and less likely.

in north africa, new regimes are having a difficult time consolidating and establishing a new political identity that can accommodate the challenging mix of deepening islamism, pressing economic demands, and a disturbing lack of strong political leadership. libya is the most negative face of this dynamic, where qaddafi's most lasting legacy appears to be institutional destruction so deep that restoring even basic security and legitimacy has not proven possible. in its absence, radical elements are providing basic security and fragmented governance in many areas of the country.

in egypt, the story is more mixed, especially at the political level, where the media continues to label every political challenge a regime crisis. but at some point president mohamed morsi will have to pay much more attention to egypt's economy if the muslim brotherhood is to consolidate its support. the country's foreign reserves and currency have plummeted, tourism remains stalled in the face of constant political maneuvering, and negotiations for a much-needed \$4.8 billion imf loan have dragged on due to the constitutional crisis. ineffective rule could easily swing towards greater populism and governance by the lowest common denominator--it's very hard to see a win for the moderate secular "revolution" here.

#### **4 - washington politics**

2013 should be a year for reform progress and renewed economic dynamism in the united states. structurally, the us is on the brink of big upside developments--a domestic energy revolution that will reduce domestic production costs and improve the trade balance, the potential for major transpacific and transatlantic trade agreements, a rebounding housing sector, and a business community that is emerging from the financial crisis in strong condition. moreover, president obama should be at the height of his political capital after winning re-election in november, and republicans should have much more freedom to compromise than after the 2010 electoral repudiation of the president and his party which led to gridlock in the past two years.

but every silver lining has a dark cloud, and dysfunctional american politics will weigh on both the economic recovery and the president's legislative agenda. we are not predicting a politically induced new recession, let alone a major financial crisis. but political uncertainty over corporate taxes and a series of noisy brinkmanship episodes will generate a modest but real drag on growth.

the fiscal cliff was averted, but the process by which the deal was reached casts a long shadow over hopes that the election

might create a more conducive environment for cooperation centered on president obama and house speaker john boehner. the model of vice president joe biden and senate minority leader mitch mcconnell reaching a one-minute-to-midnight deal and then steamrolling it through the house of representatives does not bode well for legislative politics this year. the cliff deal looks like the latest of a series of small, tactical legislative victories for the president --getting hundreds of billions in new revenue with virtually no spending cuts in return--that he has been unable to turn to larger strategic advantage.

push will come to shove pretty quickly with the conjunction in late february of the debt ceiling limit, the end of the sequestration extension, and the need for a continuing resolution to avoid a government shutdown. obama has said he will refuse to negotiate over the debt ceiling, while republicans see this series of decisions as their best chance to extract the entitlement reform and discretionary spending cuts that they failed to win in the fiscal cliff endgame. the politics of the fiscal cliff strengthened obama's hand, since republicans did not want to take the blame for higher taxes for all americans. the politics of the debt ceiling will not be so favorable for him.

markets generally discipline political actors who fail to solve problems or push fiscal problems to the brink. but in the united states, bond market pressure for fiscal consolidation and equity market pressure to support growth are now close to irrelevant considerations in the political process. bond market pressure is absent because the united states remains a relative investment safe haven, and the recent ease with which obama and boehner walked away from broader deficit reduction demonstrated the "safe haven curse." therefore, politicians have little reason to agree to take the pain on the deficit reduction side.

washington is also suffering from the "procrastinator's curse." with all four major brinkmanship events in the past five years ending in agreements (tarp, shutdown, debt limit, fiscal cliff), markets have been "trained" to reserve judgment until the end, minimizing one feedback mechanism that would otherwise force washington to agree to deals more swiftly.

media attention has focused like a laser on house republicans and their responsibility for washington's dysfunction, but only the president can shift the politics of fiscal policy. obama could change the political dynamic in his state of the union address by presenting a new bipartisan pitch for a big fiscal compromise. but the bar for engaging a restive set of house republicans has been raised considerably, and we see little

indication that obama will take this opportunity.

## **5 - JIBs - japan, israel and britain**

there are three current global trends that matter most: china is rising, the middle east is exploding, and europe is muddling through. set against a g-zero backdrop, the structural losers of these trends are the JIBs, countries impacted most directly and problematically by changes now underway in the geopolitical order.

these countries find themselves in very similar positions -for three reasons. 1) their special relationships with the united states no longer carry quite the importance, or centrality, that they used to. 2) they sit just outside the major geopolitical changes underway-and have few available means of playing a constructive role in them. 3) key domestic constraints in all three countries (political, social, historic, and otherwise) make it particularly difficult for these countries to respond effectively to the challenges posed by these changes.

japan faces a much tougher relationship with china, one that's far more difficult to navigate than other countries in asia. unlike other asian countries, where china's leaders believe that the power balance (and the presence of chinese minorities) benefits them sufficiently to allow for an incremental strategy, japan is too big for that. further, japan doesn't have as much importance for china to be concerned about the potential downside--china no longer needs japan's investment dollars because it can get much the same technology from south korea and taiwan. accordingly, china is increasingly prepared to provoke. with the new japanese election, the potential for japan to give the chinese further excuse to lash out is high. dangerous geopolitical conflict is on the horizon in 2013 (also see risk #7), and japan has little capacity to avoid it.

great britain is damned if they do and damned if they don't with the european union. if they stay in, they will become more marginalized as the eurogroup plays a larger role, they are increasingly "takers" on a bunch of regulatory issues. if they don't, they face a europe that will be increasingly heading in a very different direction in terms of economic and regulatory models. great britain's "best of both worlds" with europe will become unsustainable--britain won't necessarily exit (certainly not this year), but its decision to remain at the margins of the continent and its changes will prove economically problematic.

israel faces the erosion of moderation and increasing tension between shia and sunni extremists, who will compete for influence. the countries they could historically work the most

closely with in the region--egypt and jordan--are now under tremendous domestic strain and are likely to become at best problematic occasional colleagues, at worst directly antagonistic. turkey hasn't experienced the same domestic turmoil, but prime minister recep tayyip erdogan sees advantage in being ahead of the crowd and has turned against the israelis, and the traditional alliance with the united states buys them less than it used to. the good news: they have significant military/security and intelligence advantages. but that's increasingly the only good news they're seeing. given all the trouble, it's a critical time for the israelis to get truly serious on resolving the palestinian conflict. but with domestic political trends in israel moving the country in the other direction, that's implausible.

## **6 - europe**

the risks generated by the european financial crisis were substantially lowered when, in late summer, german chancellor angela merkel rejected the hardline approach of the german bundesbank leadership and endorsed european central bank president mario draghi's commitment to buy the bonds of ailing eurozone countries. the merkel-draghi axis looks set to endure and puts a strong floor under europe's crisis by substantially diminishing the possibility of currency convertibility. but as we've been saying for two years now, the eurozone is headed for neither break-up nor resolution, and in 2013, the risks shift from threat of financial crisis to a loss of momentum in creating the institutional and policy frameworks for a redesigned euro zone.

the weak economic outlook and the politics of crisis-fighting will remain sources of uncertainty and risk in 2013. simultaneously, euro-skepticism is on the rise, and resistance to reforms is increasing given the protracted period of austerity in the absence of prospects for an economic turnaround. big compromises will be needed to make further progress toward banking union, fiscal union, and an integrated policy framework. the ecb's floor under the crisis creates a negative incentive, given that in the absence of strong market pressure member states will be tempted to slow the pace of integration that compromise their sovereignty.

beyond these general issues and the continuing turbulence in greece, the biggest specific challenges for the eurozone in 2013 are tied up with the italian and german elections, both of which carry important implications for the eurozone's trajectory, though for different reasons.

in italy, the primary risk stems from an inconclusive general election result--a fragmented parliament, with anti-austerity

populist parties acquiring a large number of seats and the new government struggling to provide political stability. reaching consensus on unpopular economic reforms will be challenging, raising the risk of market volatility and higher financing costs. in this context, the government could seek a precautionary program from the european stability mechanism (esm), the member states' own firewall instrument. this would allow the ecb to purchase italian debt in the secondary market provided the government signs up to and meets a number of economic reform commitments. this is where the ecb's instrument would be challenged: if the government does not meet its reform commitments, three difficult choices would face the ecb: i) either the bank would insist on the adoption of additional fiscal measures, further undermining growth; ii) the ecb would continue to buy bonds, even if targets are not met, undermining its own credibility and encouraging moral hazard in italy and elsewhere or iii) the ecb would stop purchasing bonds, deepening the crisis in italy and the wider eurozone at the time when both are most vulnerable.

in germany, the risks around the election do not stem from the outcome per se: it is widely expected that merkel will prevail and the status quo german strategy of incrementally fighting the crisis will continue. rather, the risk is that in the run-up to elections, crisis management will be put on hold as the merkel government delays decisions that could hurt her popularity. most at risk here are moves that would allow for the direct recapitalization of eurozone banks and the building of an ambitious fiscal and banking union. the pre-election context will also make day-to-day crisis management more difficult. for example, in a scenario where italy (or another country) does not meet reform commitments, it would be more complicated for chancellor merkel to support continued ecb bond-buying, given the german public insistence that any financing of peripheral countries be contingent on strong conditionality. having said this, the underlying political support for the eurozone remains strong across government and the public.

the bottom line is that until europe finds a formula for restoring economic growth more broadly, the risks around the eurozone cannot be put in the rear-view mirror. we're not quite there in 2013.

## **7 - east asian geopolitics**

geopolitical risk will continue growing in east asia in 2013 in a new, and potentially more dangerous, way. for the past decade, the main drivers of regional risk have been north korea's nuclear provocations and tensions around the status of taiwan. these issues were well-defined, and risks were offset

by regional commercial integration and shared economic growth. the good news is that north korea and taiwan no longer loom as major sources of tension. north korea has been somewhat less provocative, but at least as importantly, cooperation among other regional actors --along with the united states--on how to manage pyongyang has actually deepened considerably, lowering the risk of an escalation scenario. and while taiwan's long-term status remains uncertain, there is now a stable bargaining environment between beijing and the ruling kuomintang in taipei.

but broader regional relations have become more tense recently as a more nationalistic china has veered sharply away from its "charm offensive" approach to southeast asia, while simultaneously becoming more assertive in northeast asia; and the united states has renewed its strategic and economic commitment to the region, giving oxygen to the hedging strategies of many regional states seeking closer ties with the united states. this in turn has led to another round of "the us is out to keep china down" thinking in beijing, and growing tensions between the world's two most important powers. at risk here is the decades-long pattern of east asia as a zone where positive-sum commerce and economics trumps zero-sum geo-political tension.

assertive nationalism from beijing --most prominent in the form of raising long-standing expansive maritime claims to a chinese "core interest"--has engendered a tipping point in how the region is viewing china's rise, with a deep unease displacing optimism and generating a parallel, if more defensive, nationalism in most of the other states of the region. for the asia-pacific region broadly, at the core of china's appeal has been the belief that china's economic dynamism creates opportunities for its neighbors as well. the new conventional wisdom across much of the region is that the era of a cooperative, dynamic and non-assertive china is over and that the regime they now face will be less dynamic economically (even as china's growth continues, the economic relations will become less positive-sum) and more assertive regionally.

the first serious signs of regional geopolitical tensions moving into the economic/commercial sphere was the government-inspired attacks on japanese businesses in a number of chinese cities last fall, as tensions around the senkaku/diaoyu islands escalated. chinese officials told other countries not to worry, that the "anger" would be directed only at japanese firms and products, which was probably not very reassuring to many.

given the huge internal challenges they face as they seek to

consolidate power, china's new leaders--president xi Jinping and premier li keqiang--are unlikely to adopt a less assertive regional stance. it will be virtually impossible for them to yield on territorial or diplomatic disputes early in their tenure. but the dilemma for china is that its inflexibility on such issues--including those currently flaring up in both the south and east china seas--compels some of its neighbors to take more forceful positions against beijing and seek closer strategic engagement with the united states. the chinese have yet to acknowledge this security dilemma, let alone address it, instead insisting that sharper regional tensions are arising solely from the us pivot.

consequently, there's a high likelihood that this dilemma will come into even sharper relief in 2013. if beijing faces a foreign policy test, xi will have a strong incentive to demonstrate his foreign policy mettle and avoid being seen as capitulating to outside interests. that dynamic suggests less chance of compromise from asia's emerging strategic powerhouse and heightened risk throughout the region.

more nationalist policies are also expected from japan. the country will become more assertive in its policy postures as a new liberal democratic party (ldp) government pursues a more nationalist bent. new prime minister shinzo abe has already pledged to strengthen japan's defense capabilities and to solidify japanese control of the senkaku-diaoyu islands. beijing will see such a move as confrontational, and it will herald another period of heightened tension in the japan-china relationship.

in southeast asia, vietnam and the philippines are likely to continue to test beijing over territorial issues, driven by their perception of us backing and their sense that china will not ultimately push toward an actual military confrontation. in the meantime, both countries are deepening their own security ties not just with the united states, but with australia and japan as well.

in this context, the lack of effective east asian regional organizations to mitigate security tensions will become increasingly apparent. while some will want asean to play this role in southeast asia, beijing continues to insist on a bilateral approach to territorial and security issues and has enough influence with cambodia and laos to prevent any unified asean stance. the united states will have to balance the need to reassure its friends and allies with the need to avoid a continued deterioration in relations with beijing. don't expect a new equilibrium on these tough issues this year.

## **8 - iran**



it never fails, we give a speech and we get the question --when is the united states or, failing that, israel going to bomb iran? it's very unlikely, especially in 2013. the more militarist pronouncements of prime minister benjamin netanyahu and other israeli leaders are less a signal of israeli willingness to attack than an exertion of maximum diplomatic and economic pressure on iran and an effort to get the united states "gradually pregnant" in its willingness to use the military option. but a war-wary america led by a president skeptical of the israeli prime minister ensures there will be many steps between "taking containment off the table" and actually going to war.

so the risk of military strikes this year triggered by progress in iran's nuclear program is less than most observers believe. the iranian government is not on the verge of a viable "breakout path" based on available data and is unlikely to dash toward a bomb this year. netanyahu will almost certainly be re-elected next month and will continue to highlight the iranian threat, but will be loath to initiate an attack without evidence of some kind of technical breakthrough or a move by iran to "sprint to the finish" by expelling iaea inspectors.

there is a significant iran risk; it's just not the one people are thinking about. we're likely to see a sharp escalation in the shadow war between iran and israel and the united states --a cycle of mutual killings, cyber-attacks, and proxy battles--that has been ongoing for several years. this shadow war has the potential to rattle markets and put upward pressure on oil prices (though in a generally more bearish overall energy environment--see red herrings), and could lead iran, feeling especially vulnerable given the deterioration in syria that we mentioned in the "arab summer," toward more aggressive action and tit-for-tat escalation. it's not hard to see how we get from here to there.

the early months of 2013 will likely see a round of intense negotiations between iran and the west, but unless iran's supreme leader ali khamenei sharply recalculates iran's options (unlikely but not impossible, particularly given the timing of the upcoming iranian presidential elections), these talks will fail and by spring we will again see intensifying sanctions. those sanctions are already biting --over a million barrels of oil production have been taken off line from sales and tough banking restrictions. against the backdrop of economic mismanagement and sanctions, iran's currency has virtually collapsed.

as new sanctions are put in place, efforts to sabotage the iranian nuclear program will also escalate. pressure will

intensify on iran's leadership to do something in response, both to rally domestic support and to project an image of strength. the combination of continuing iranian resolve on the nuclear program and internal political and economic weakness will likely lead iran to escalate its side of the shadow war.

the chance of miscalculation and over-reaction on both sides would then rise. a successful plot similar to the october 2011 plan to assassinate the saudi ambassador to the united states by bombing a restaurant in washington would provoke swift and lethal retaliation by the united states. an episode like the 2008 swarming of us naval ships in the gulf by iranian revolutionary guards' "fast boats" could equally spark a sharp escalation. so despite our contrarian view that 2013 is not going to be the "year of decision" on the basis of the status of the iranian nuclear program, the escalating shadow war will keep tensions high and investors on edge.

## **9 - india**

india in 2013 will be one of the prime examples of the intrusion of political factors into what had been until recently seen as a long-term economic success story. we have all read articles about how, with the looming long-term structural slowing of china's economy, india was poised to become the world's next "growth uber alles" country. not so fast.

a landslide re-election in 2009 enabled the congress party coalition to rule without the encumbrance of the communist party, which congress often blamed for holding back reform. markets surged, and expectations rose for a new round of fundamental reforms. after all, the architect of indian reform, manmohan singh, was now in full control, and could claim both the confidence of party leader sonia gandhi and the commitment of a large group of savvy technocrats ready and willing to push the reformist boundaries. large-scale reforms--to mining, energy, land acquisition, tax regimes, financing instruments and more--were to boost economic growth toward a 10% trajectory.

but while india sustained generally substantial growth rates, the tough political choices on reform were continually left for the next parliamentary session, and the breakthrough to higher growth was not achieved. instead, corruption issues tainted the government, coalition partners proved to be less compliant than expected and, most importantly, the anti-reform elements within congress showed that they still had considerable political clout and influence with the "ruling family."

in 2013, the ability of the government to implement robust

economic policies will decline even further, perpetuating india's "stalling or falling" outlook. as general elections draw closer, political opportunism and obstructionism will increase. any support for reform from the fickle regional parties that hold the balance of power in parliament will likely wane. these parties will distance themselves from the unpopular, corruption-tainted congress, increase the powers of the state governments they control vis-à-vis new delhi and position themselves as kingmakers in the post-election landscape.

congress's appetite to push for any reforms will diminish as it goes into full-blown campaigning mode. for its part, the opposition bjp will remain obstructionist, especially given that it will be politically consumed by figuring out who should lead the party in the upcoming election battle. these trends will be exacerbated if the election is held early (before the end of 2013). poor policymaking will extend to fiscal policy, where any meaningful fiscal consolidation in 2013 is unlikely.

the government could seek to boost its support in the rural areas through an agricultural loan waiver program --a traditional indian election-year gimmick. even more problematic for long-term fiscal balance would be a national food security bill that sonia gandhi sees as a key vote -winning plank for congress. this could increase india's food subsidy spending by the equivalent of 2% of gdp. populist pressures and india's fractious political environment virtually guarantee that the government will not deliver on its 2012 budget promise to reduce total subsidy spending to 2% of gdp.

continued profligacy heightens the looming risk of a sovereign ratings downgrade to "junk" status, though the government will seek to accomplish just enough on the reform and fiscal fronts to forestall a downgrade, which heightens india's fiscal troubles by raising the government's borrowing costs. it would also precipitate a fall-off in fdi inflows and a likely outflow of foreign portfolio inflows, which in turn would put downward pressure on the rupee.

in the best of circumstances, the political context for economic reform might improve following the elections. but, at this point, the more likely outcome is that india's policymaking environment becomes even more difficult as the poll is expected to return a more fractious and divided parliament, generating a weak ruling coalition without the political support for a strong reformist push.

## **10 - south africa**

sub-saharan africa, more than any other region, epitomizes the paradox of the shift in economic dynamism to the emerging

markets and the significant increase in political risk. in aggregate growth terms, africa looks to be on a trajectory to continue its recent positive performance. middle classes are rising, and more countries are headed on higher growth trajectories. but investor beware, in africa's two largest and most sophisticated economies--south africa and nigeria--the outlook is much less rosy. for nigeria, the outlook for 2013 is pretty steady, if negative; and it did not make the top risks list. but south africa, which we included in our 2012's top risks, again makes the grade, as the trends we correctly highlighted last year appear even more ominous for 2013.

the ruling anc's recent party conference saw the consolidation of power by president jacob zuma and the replacement of party vice president kgalema motlanthe with labor-leader-turned-capitalist cyril ramaphosa. while appearing to signal a more pro-business tilt, this will almost certainly not be the case. the ranks of reformist and "conciliationists" within the anc leadership continue to thin, shrinking the party's "broad church" and deepening its reliance on patronage politics. perhaps more significant than the ramaphosa appointment was the fact that former finance minister trevor manuel, the anc's most internationally respected policymaker, chose not to remain on the party's 80-member executive committee. as for ramaphosa, he is one of the richest and most prominent of those politically connected black south africans who have taken advantage of black economic empowerment deals and whose success has undermined the credibility of the anc by highlighting the problems of corruption and inequality.

in fact, the political trends emerging in south africa are all heading in the same direction--more populism as a strategy by the anc to maintain its base among the urban and rural poor. while the policy platform that came out of the national conference is quite balanced, it is hard to see real movement on non-populist measures such as loosening the country's strict labor regulations, modernizing the education system, and rationalizing state spending, especially at the local level. rather, the anc consensus around greater state intervention in 'strategic industries' (mining, mining-related manufacturing) will become policy. look for higher mining taxes and the speeding up of already significant efforts to exert political influence over the entire sector.

the party will look to shore up support ahead of 2014 elections via social spending, public sector employment and more aggressive land reform policies. we expect social unrest to deepen in 2013. coming retrenchments in mining will almost certainly spur another bout of labor unrest following 2012's violent confrontations between miners and the police, and the mining sector has always been in a leading role in

south africa's trade union politics. the demise of the once-dominant national union of miners because of its inability to defend miners' interests will lead the national cosatu federation to become even more assertive, making other sectors more vulnerable to the mining precedent.

social and political unrest could spread beyond the labor terrain. we expect continuing 'service delivery protests' in urban/peri-urban areas. more significant is the risk of political violence as losers in the anc factional battles ponder next steps and opposition parties and the anc begin to prepare for national elections in 2014. all this will add spending pressures on the anc government and sap any reform momentum. south africa still has many institutional strengths and we are not predicting a fundamental political crisis, but the country is headed along a path that gives little reason for optimism.

## **red herrings**

### **1 - geopolitics of energy**

the middle east is exploding. any time you've heard that in the past 30 years, it meant that energy prices were going up. political risk has been more linked with oil prices than any other market area in the world in the post-war era. but most of the middle east risk in the coming year isn't about energy producers; it's about everywhere else. syria, jordan, lebanon. israel/palestine. the iran risk is there, but lower than the markets think. and while iraq is becoming a much more serious investment risk, for 2013, most of it doesn't impact oil production.

add to this the energy revolution coming from the western hemisphere--unprecedented amounts of unconventional gas and oil coming from the united states, as well as exploitation of canada's oil sands, and offshore brazil and mexico also coming on line. looking ahead, new fossil fuels are increasingly coming from the developed world and more stable developing countries. that's a boon for the western hemisphere, and it's helpful for global consumers writ large.

that's not great news for poorly governed resource-rich countries like russia and venezuela, which really need high energy prices to keep afloat. it also creates a new nearer-term middle east risk--saudi arabia versus an (iran-influenced) iraq, both competing for tighter market share in energy and unwilling to produce less and benefit its neighbor. but for the headlines around geopolitical risk spiking energy prices, 2013 isn't the year to get overly concerned.

### **2 - global protectionism**

since the financial crisis hit in 2008, we've been hearing a constant refrain about the impending rise of protectionism, and the threat it poses to the global economy and globalization. in the annual meetings of the g20, virtually the only issue on which there has remained a strong consensus among the leaders is the looming threat of protectionism and the need to ensure that this risk is not realized!

but maybe the g20 can afford to agree on protectionism because there's less threat here than meets the eye. over the past five years, protectionist measures have been rare and relatively small-scale. there has been a lot of talk by the brazilians about the fed's series of quantitative easing measures as protectionism, for example, but that gets the story very wrong. quantitative easing may have put some downward pressure on the dollar (but not much), but the goal was certainly not trade-related.

looking at 2013, the trend is actually going the other way. in fact, we're seeing a quickening of competitive trade liberalization efforts, as the european union --in the face of bleak economic forecasts and efforts by the united states and others to push toward final agreement on a framework for a trans-pacific partnership (tpp)--is generating a strong internal consensus on the need for a new major transatlantic economic cooperation package.

so far, washington has pushed back on brussels, not wanting to dilute efforts around tpp. but if tpp hits any significant roadblocks this year, washington policymakers could very well open negotiations with the european union, creating competitive pressures and enhancing american leverage with both sides. in any event, we could very well see two giant trade deals over the next couple of years that, taken together, provide an alternative pathway forward for trade liberalization in the face of the endless negotiations around the wto's stalled doha round. if so, it would be one of the biggest and most creative examples of what coalitions of the willing can accomplish in the g-zero world.

### **3 - radicalism in the developed world**

the gap between rich and poor continues to grow, particularly in the united states. austerity is biting in europe. and japan looks toward a third lost decade. surely class warfare will trigger significant instability across the developed world?

no. for much the same reason that emerging markets are the top risk this year, it's the underlying stability of advanced industrial democracies that will come through in 2013. the

european periphery has been through three years of crushing austerity--the sorts of measures that aren't remotely feasible in emerging markets and would shake many of their political institutions to the core. in some cases, with governments effectively appointed by european institutions (italy, greece), with record level unemployment, and a recession (in the case of greece, a depression). and the impact? demonstrations, expanded support for fringe parties (the uk independence party, some anti-immigrant parties in a few european states, fringe groups like the pirate party in germany and the five star movement in italy). but nothing that threatens the viability of the governments or the governing process. there has been scarce little violence and very little social dislocation.

in the united states, the rich/poor divide is greater than it's been at any point since the great depression. we've seen the statistics: the top 1% of american households own 34.5% of us wealth (75% for the top 10% of earners); compared to 1% for the bottom half of american earners. from 1979 to 2007, the top 1% of households doubled their share of pretax income while the share of the bottom 80% fell. but priorities of the united states can be fickle--the debt, health care, gun control. wealth redistribution? not a priority. and the american population is hardly prepared to revolt over it. the tea party movement has elements of nativism, but has been largely subsumed by the republican party. and the occupy wall street movement? pretty much out of steam. a return to improved economic growth levels is only going to help, even as the gap between rich and poor continues to widen.

and japan? two lost decades, going on three. no growth, but that has less near-term impact on personal well-being given that japan's population is declining. elections had low turnout, particularly among the youth. that's worrisome in terms of engagement. but there's no movement toward radicalism. japan has the potential for big demonstrations on the nuclear issue and, worryingly, on china. but that's about it.

longer term, if none of these issues is addressed, they'll surely become more serious. that will hit the european periphery before anyplace else--and so we'll be hearing more about whether or not there's truly a "return to growth" strategy on the continent. for the united states and japan, it's a matter of more than a decade. for 2013, this isn't a risk. it's a herring.

#### **4 - european separatism**

there are very real separatist pressures building in catalonia and in scotland, and national unity remains fragile in belgium. but there is almost no chance that any of these issues grows into an actual crisis in 2013.

catalonia will take the first steps toward holding a referendum, but a vote is unlikely until 2014, and a new fiscal deal with madrid could even contain the push for self-determination. following regional elections last year, a new center-left coalition was created to push for a referendum in the next two years. however, the coalition is not unified on economics with the center supporting austerity, while the left remains fundamentally opposed.

this tension could have implications for negotiations that will take place over the referendum. catalan premier artur mas will push aggressively for the referendum to maintain the stability of the coalition. but spanish prime minister mariano rajoy might give mas some economic concessions in separate negotiations over funding regional autonomy in order to divide the catalan coalition. a better fiscal deal would help mas save face and could eventually put off a referendum.

2013 will see growing debates around the effects of independence of scotland from the united kingdom, which will generate considerable noise. but scotland's referendum will not happen until 2014. in terms of the eventual outcome of the vote, polls show that most scots actually oppose a 'yes' vote, fearing tough negotiations over defense and oil revenues, among other issues. moreover, an independent scotland could be forced to reapply for eu membership and move toward euro adoption, both of which are highly unpopular.

in belgium, the rise of the separatist new flemish alliance (n - va) will make negotiations on further devolution and finances difficult, but even an eventual collapse of talks won't lead to the partition of the country. the victory of the n - va in local elections puts the federal government under pressure. two of the three flemish parties present in the six party federal government--the liberal open vld and the christian democrats (cd&v)--need to deliver a credible alternative to the separatists in order to quell public demands for separation. therefore, the belgian government will face important challenges to its unity, but the next real challenge for the territorial integrity of the country will be the federal election scheduled in 2014.

#### **? - north korea**

sometimes...you just can't know what's happening. looking at north korea this year, that's really the case. we've had a fairly sudden leadership transition in the world's most totalitarian state, under massive economic pressure, with an untested 28-year-old now running the country. so far, very surprisingly,



it's gone well. indeed, it's probably gone better than anyone would have dared presumed--in his first year of power, kim jong un has presided over a regime that's a bit more transparent, a bit more balanced, and barring a few early purges, a bit more stable.

even when the north koreans tested an advanced rocket last month--the sort of thing that would have set off all the alarm warnings in previous years--it was a smaller deal given the way they conducted themselves internationally: with less belligerent propaganda, talking in advance with china and singapore, making clear what was coming and when. then, offering a public address for the new year, kim said his country was seeking economic development and so he hoped to "remove confrontations between the north and south."

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**From:** Dorgelo, Cristin  
**Sent:** Monday, May 13, 2013 4:48 PM  
**To:** Laura Nelson  
**Cc:** Sergio Gandara  
**Subject:** RE: White House Hangout on Grand Challenges

Hi Laura:

Just a heads up that we're leaning towards 2 -2:45 PM EDT on Thursday.

Also...in addition to talking about the self-driving car, it would be great to hear from Sebastian about Google [x] and Google Glass to the extent he can hit on those additional topics as well (if there is a chance he could have Google Glass to wear for some or all of the session, that would be great too!). If not, no worries. Tom Kalil will moderate the discussion.

Will send confirmed time by tomorrow AM.

Thanks!  
Cristin

**From:** Laura Nelson [mailto:(b) (6)]  
**Sent:** Friday, May 10, 2013 2:21 PM  
**To:** Dorgelo, Cristin  
**Cc:** Sergio Gandara  
**Subject:** Re: White House Hangout on Grand Challenges

Hi Cristin,

I would be happy to help set this up! Sebastian would be happy to attend via Google Hangout on Thursday 5/16. Could you let me know what time frame we are looking at? after 1pm PDT/ 4pm EDT would work, and Sebastian could also do 11am PDT/ 2pm EDT and earlier. Please let me know what time would work best, and I can help coordinate.

Thanks and looking forward to hearing back from you.

Laura Nelson I Udacity I o (b) (6) I (b) (6) I (b) (6)

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More about Udacity:

[Udacity](#) | [Forbes](#) | [New York Times](#) | [Wired](#)

On Fri, May 10, 2013 at 7:57 AM, Sebastian Thrun (b) (6) wrote:

----- Forwarded message -----

From: "Dorgelo, Cristin" (b) (6)  
Date: May 10, 2013 7:46 AM  
Subject: White House Hangout on Grand Challenges  
To: (b) (6) (b) (6)  
Cc:

Hi Sebastian!

On May 16 next week, the White House will host a Google Hangout to discuss Grand Challenges, ambitious goals on a national or global scale that capture the imagination and demand advances in innovation and breakthroughs in science and technology. Grand Challenges are an important element of President Obama's Strategy for American Innovation.

As a leader in this area, we'd like to invite you to participate in our Google Hangout via remote webcam. In particular, we'd like you to focus on Google's work on the self-driving car. Administration participants include Tom Kalil and me.

Logistically, we'll need you for no more than 45 minutes on May 16<sup>th</sup>, sometime in the early afternoon EDT (looking to go on air for 35-45 minutes—exact time TBD). If you are willing to participate and have time on the 16<sup>th</sup>, all you'll need is a laptop or desktop computer, a webcam, and an internet connection. And if you have a logistical/technical point of contact in your office, please connect them with us. (For reference, here's a White House hangout we did recently on the [Maker Movement](#).)

Can you let me know by Monday if you are available that afternoon and interested in participating?

If so, awesome! If not, I'll reach out to Astro Teller of Google[x], unless there is someone else at Google you'd recommend.

Thanks!

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

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**From:** Vint Cerf (b) (6)  
**Sent:** Monday, January 07, 2013 9:13 AM  
**To:** Alec Ross; Ari Schwartz; bruce andrews; francisco sanchez; Jane Lute; Larry Strickling; mark weatherford; Sapiro, Miriam; pat gallagher; Philip L Verveer; Rich O'Lear; Kalil, Thomas A.  
**Subject:** Fwd: eg update top risks 2013: 2 of 2

----- Forwarded message -----

**From:** Bremmer, Ian (b) (6)  
**Date:** Mon, Jan 7, 2013 at 9:02 AM  
**Subject:** eg update top risks 2013: 2 of 2  
**To:** Vinton Cerf (b) (6)

dear vint,

it seems one risk went unnoticed here at eg --the top risks report broke through the character count that our system can handle. below is the final risk in its entirety, and our sign-off. sincere apologies...

**? - north korea**

sometimes...you just can't know what's happening. looking at north korea this year, that's really the case. we've had a fairly sudden leadership transition in the world's most totalitarian state, under massive economic pressure, with an untested 28-year-old now running the country. so far, very surprisingly, it's gone well. indeed, it's probably gone better than anyone would have dared presumed--in his first year of power, kim jong un has presided over a regime that's a bit more transparent, a bit more balanced, and barring a few early purges, a bit more stable.

even when the north koreans tested an advanced rocket last month--the sort of thing that would have set off all the alarm warnings in previous years--it was a smaller deal given the way they conducted themselves internationally: with less belligerent propaganda, talking in advance with china and singapore, making clear what was coming and when. then, offering a public address for the new year, kim said his country was seeking economic development and so he hoped to "remove confrontations between the north and south."

how has the unknown and untested kim managed to pull that off? is he sincere? can he continue? we honestly don't know. and neither does anybody else. it's almost impossible to assess whether north korea is becoming more stable and, if it is, whether that now means the south koreans, in particular, can start resting a bit more easily. everything about the north korean system tells you it's a perilous bet as a country--but what causes trouble and when? we'd like to say it's not worth losing sleep over. that's not quite true. but at the same time, working harder to assess what exactly is going bump in the night doesn't feel very purposeful. sorry.

\* \* \*

that's what we're thinking about 2013. over the coming two weeks, we'll be sending longer pieces and organizing conference calls on each of these risks. we hope you'll join us for a conference call with an overview of all the risks this morning at 10am, and we would love to hear your thoughts and comments on the report--please send over a note with whatever you're thinking.

and finally, our warmest appreciation for the eurasia group community. it's been 15 years (!) since we appeared on the map. to say that perceptions of political risk have changed dramatically in that time seems an understatement indeed. our deep thanks to you for contributing to that change.

with very best wishes for the new year,  
ian and david

p.s. david and i have also put together a podcast surrounding some of our top risks-feel free to check it out:  
<https://itunes.apple.com/us/podcast/eurasia-group-podcasts/id559516201>

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**From:** Edelman, R. David  
**Sent:** Friday, May 10, 2013 6:07 PM  
**To:** 'George Ivanov'  
**Subject:** RE: Quick Call Later This Week

3-3:30 on Monday. Speak then

-----Original Message-----

**From:** George Ivanov (b) (6)  
**Sent:** Friday, May 10, 2013 04:52 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: Quick Call Later This Week

Hi David,

No problem. Any time on Monday from 11-1 or 3-4 would work. Have a good weekend!

Sincerely,  
George

On Fri, May 10, 2013 at 4:48 PM, Edelman, R. David (b) (6) wrote:  
George,

Sorry, was pulled across the street most of the afternoon. Should we plan to chat over the weekend, or early next week?

-----Original Message-----

**From:** George Ivanov (b) (6)  
**Sent:** Thursday, May 09, 2013 08:28 AM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** RE: Quick Call Later This Week

Hi David,

The late afternoon is wide open for me from 3-6. You can reach me on my desk line a (b) (6) or on my cell phone a (b) (6) Thank you.

Sincerely,  
George

On May 8, 2013 11:46 PM, "Edelman, R. David" (b) (6) wrote:

>  
> George,  
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>  
> How's tomorrow late afternoon? Things are a bit fluid right now, but give me a sense of your timing and I'll ring when I'm not across the street.  
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> -rD  
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> From: George Ivanov [mailto:(b) (6)]  
> Sent: Wednesday, May 08, 2013 1:54 PM  
> To: Edelman, R. David  
> Subject: Re: Quick Call Later This Week  
>  
>  
>

> Thank you David. I'm primarily interested in discussing privacy and law enforcement issues.  
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>

> Sincerely,  
>  
> George  
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>  
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> On Tue, May 7, 2013 at 6:28 PM, Edelman, R. David (b) (6) wrote:

> George,  
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>  
> Thanks, would be my pleasure, though this week is slammed. What're the topics? Will talk to my team about what can open up.  
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>

> -rD  
>  
>  
>

> From: George Ivanov [mailto:(b) (6)]  
> Sent: Tuesday, May 07, 2013 4:45 PM  
> To: Edelman, R. David  
> Subject: Quick Call Later This Week  
>



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>  
> Hi David,  
>  
>  
>  
> Thank you for taking the time to meet with everyone earlier today. If you have some time later this week, we should catch up with a quick call to discuss a number of specific areas of interest. Friday is wide open for me but let me know which day/time might work best for you.

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> Sincerely,

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> George

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> --  
> George Ivanov  
> Policy Analyst | Google Inc.  
> 1101 New York Ave NW  
> Washington, DC 20005

(b) (6) (b) (6)

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> --  
> George Ivanov  
> Policy Analyst | Google Inc.  
> 1101 New York Ave NW  
> Washington, DC 20005

(b) (6) (b) (6)

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

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**From:** Google, CAP & ELLE (b) (6)  
**Sent:** Wednesday, January 09, 2013 12:37 PM  
**To:** Edelman, R. David  
**Subject:** Google, the Center for American Progress and ELLE invite you to an Inaugural Brunch



This event has been planned to comply with applicable ethics rules to enable members of Congress and congressional staff to attend. Stricter rules may apply to certain executive branch employees and state/local officials. Executive branch employees and state/local officials are encouraged to contact their designated agency ethics officials for guidance. If you wish to pay Google for your attendance, or if you have any questions, please contact us at (b) (6).

You received the "Google, CAP & ELLE Inaugural Brunch" invitation because you are involved in the Google community or have attended Google events in the past. If you no longer wish to receive information regarding the "Google, CAP & ELLE Inaugural Brunch" please enter your email address [here](#).

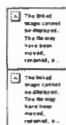


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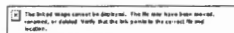
**From:** Vint Cerf (b) (6)  
**Sent:** Wednesday, January 09, 2013 2:45 PM  
**To:** Alec Ross; Ari Schwartz; bruce andrews; francisco sanchez; Jane Lute; Larry Strickling; mark weatherford; Sapiro, Miriam; pat gallagher; Philip L Verveer; Rich O'Lear; Kalil, Thomas A.  
**Subject:** Fwd: Eurasia Group Note - CHINA: Economic risks skew more toward overheating in 2013

----- Forwarded message -----

**From:** Consonery, Nicholas (b) (6)  
**Date:** Wed, Jan 9, 2013 at 1:16 PM  
**Subject:** Eurasia Group Note - CHINA: Economic risks skew more toward overheating in 2013  
**To:** Vinton Cerf (b) (6)



**CHINA: Economic risks skew more toward overheating in 2013**  
9 January 2013 12:49 PM EST



- The Chinese government is dedicated to maintaining stable economic growth in 2013 and has the policy tools to do so.
- But policymakers are conscious of debt and inflation risks and they are likely to avoid using those policy tools too aggressively this year.
- That said, risk skews more toward overheating rather than an unexpected slowdown, especially in early 2013 given the new leadership's interest in protecting growth.



China's new party leadership, which formally assumes office in March, will be eager to achieve a positive economic story in 2013. That would build on a moderate uptick in growth over the final months of last year. This would bolster Party and public confidence in President Xi Jinping and Premier Li Keqiang and allow them to solidify domestic support. The result will be that China's new leaders are focused on economic stability and political consolidation more than on comprehensive reform initiatives during their first year in office (See Eurasia Group Outlook - CHINA: New leaders, same party:

### The politics of continuing reform).

Beijing has adequate policy tools to achieve this positive growth story in the year ahead. Credit supply is one lever, but the primary driver of incremental new growth will be government spending on infrastructure, industrial policy, and social welfare.

Spending across the board will be guided by the 12th Five Year Plan (FYP). With 2013 marking the third of the plan's five years, policymakers will work to make progress, especially with respect to targets that are high on the political radar or those for which progress has been more limited (See Eurasia Group Note - CHINA: Economic work conference to presage a growth stability focus in 2013). For example, incoming Premier Li Keqiang's strong public commitment to promoting urbanization will result in particularly heavy outlays for infrastructure and affordable housing development in the year ahead. New spending on industrial policy will also be a major focus this year --the FYP promises \$1.5tn of government outlays on seven emerging industries by 2015. Recent indications from officials suggest that China's biggest state banks have outstanding loans closer to \$150bn for these industries, suggesting they have ample space to ramp up those levels in the year ahead.

On the social welfare side, spending will increase on state healthcare and pension funds. And a long-debated reform of income distribution is likely to be announced in the first half of the year. The ramifications of these measures on near-term growth will be limited. But they reflect a structural reality that Beijing is becoming less interested in economic growth per se, and more in the sustainable and equitable distribution of growth. That shift will characterize at least the first few years of China's new administration.

### **Global economy**

There are risks to the stability of the Chinese economy in 2013, however. And these risks skew more toward overheating and inflation than toward a slowdown. The biggest is China's potential overreaction to persistent weakness in the global economy. The pace of recovery globally has been frustratingly slow and many in Beijing maintain a largely pessimistic view on the prospects for global growth. There is strong skepticism in particular about Washington's ability to engineer any kind of meaningful response to economic weakness in the US or to address the country's widening fiscal deficit.

These concerns could drive an overreaction by the Chinese government. Given the central government's manageable fiscal deficit and control of the banking sector, Beijing has the policy maneuverability to respond robustly to renewed indications of a domestic slowdown. With a young and untested administration in need of a positive domestic economic story, policy would tilt more strongly toward the growth side if global economic risk heightens in 2013. But a rejuvenated countercyclical approach could reignite inflation and debt concerns in China, sully the economy's medium-term outlook.

### **Real estate**

Beijing could also miscalculate on two domestic issues this year, creating home-grown economic headaches and forcing the government to respond with more growth promotion steps in other areas. The first is on the real estate sector. Domestic real estate investors and developers hope that the broad-based residential pricing rebound of recent months can be sustained. The risk is that a continued uptick in prices results in more speculative activity by developers and investors, leading prices even higher. That would be positive for China's near-term growth story.

But public pressures surrounding housing prices have grown dramatically in recent years, and incoming Premier Li Keqiang has publicly associated himself with attempts to control the market. A renewed bout of speculation could therefore lead Beijing to double down on investment restrictions, more likely later this year, and on a city-by-city basis rather than nationwide. If not managed appropriately those steps could threaten to usher in another period of stagnation in the real estate market and a slowdown in domestic investment activity. Beijing would have to offset that with new spending on infrastructure or industry.

### **Financial system**

Systemic financial risk is also on the rise in China. In recent weeks Beijing has signaled it will seek to do more to control the proliferation of wealth management products at banks in 2013. But despite these signals, many market participants in the Chinese financial sector believe that 2013 will mark a year where more off-balance sheet financial products proliferate, fueled by investor demand in light of pervasive distrust in the equity markets and real estate investment restrictions.

An intervention by Beijing to control such products more concertedly might reduce systemic risk. But doing so could also remove capital that is currently being used to finance new corporate and perhaps even local government investments. That too might force Beijing to respond with a more robust credit expansion through traditional bank lending channels to shore up available capital for the economy.

Happy to discuss,

Nicholas Consonery

Analyst, Asia

Tel (b) (6)

Email (b) (6)

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transmitted in any form or by any means, electronic or otherwise, without the prior consent of Eurasia Group.

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**From:** Edelman, R. David  
**Sent:** Wednesday, May 15, 2013 9:13 AM  
**To:** George Ivanov - Google (b) (6)  
**Subject:** FW: Google

George,

Per below: Alex has been my very committed, knowledgeable, and technology -passionate intern at the NEC this spring. Would it be alright for me to e-intro you, and would you be able to chat with him further about your experience at Google D.C.? He's interested in working with you all.

Thanks,  
-rD

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**From:** Alex Krivit [mailto:(b) (6)]  
**Sent:** Wednesday, May 15, 2013 8:53 AM  
**To:** Edelman, R. David  
**Subject:** Google

I looked a couple of days ago at the Google in DC employment page and noticed that there was an opening for a Public Policy and Government Affairs Research Analyst. I was very interested in exploring this opportunity as it would be a way for me to continue to research, explore and be involved in many of the policy areas I've come to work on as a member of your NEC team.

I remember meeting, if only very briefly, George Ivanov from their team at the EU cloud meeting we had last week. I was wondering if you could send him a quick note to see if he or someone on his team would mind sitting down with me to discuss this position.

Thank you,

Alex Krivit

—  
Sent from Mailbox for iPhone

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**From:** Edelman, R. David  
**Sent:** Wednesday, May 15, 2013 9:24 AM  
**To:** George Ivanov  
**Cc:** Alex Krivit (Intern) (b) (6) Krivit, Alex (Intern)  
**Subject:** RE: FW: Google

Thanks, George. Connecting you now. Appreciate your time.

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Wednesday, May 15, 2013 9:24 AM  
**To:** Edelman, R. David  
**Subject:** Re: FW: Google

Hi David,

Yes, I would be happy to chat with Alex about my experience here and the application process.

Sincerely,  
George

On Wed, May 15, 2013 at 9:12 AM, Edelman, R. David (b) (6) wrote:

George,

Per below: Alex has been my very committed, knowledgeable, and technology -passionate intern at the NEC this spring. Would it be alright for me to e -intro you, and would you be able to chat with him further about your experience at Google D.C.? He's interested in working with you all.

Thanks,

-rD

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**Sent:** Wednesday, May 15, 2013 8:53 AM  
**To:** Edelman, R. David  
**Subject:** Google

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Thank you,

Alex Krivit

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Sent from Mailbox for iPhone

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

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**From:** Dorgelo, Cristin  
**Sent:** Wednesday, May 15, 2013 3:02 PM  
**To:** Laura Nelson  
**Cc:** Sergio Gandara  
**Subject:** RE: Logistics: White House Grand Challenges Hangout

Hi Laura:

Tom will ask Sebastian to describe the grand challenge he's pursuing (we'd like to focus on self-driving cars, but if he'd like to use "democratizing education" as an additional example, that's great too).

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Otherwise, I expect the discussion to be relatively casual and free-form between the participants.

One note: If he doesn't already have a Google+ account associated with one of the email addresses below, you might want to set that up before tomorrow's log-in time.

Best,  
Cristin

**From:** Laura Nelson [mailto: (b) (6)]  
**Sent:** Wednesday, May 15, 2013 2:52 PM  
**To:** Dorgelo, Cristin  
**Cc:** Sergio Gandara  
**Subject:** Re: Logistics: White House Grand Challenges Hangout

Hi Cristin,

Great, thanks for sending! Here is my cell just in case (b) (6) Sebastian's email addresses are gmail, so we should be ok there (b) (6) o (b) (6)

Can you let me know the questions that will be asked? Sebastian will be able to talk about the self-driving cars, but I'm not sure about Google x or Google Glass. He is talking to someone in Google about whether or not he can talk about the other subjects.

CC'd here is Sergio from Google. He can help facilitate approval inside of Google. It would help to get more context around the questions that will be brought up during the hangout, if you have those available.

Thanks for your help!

More about Udacity:

[Udacity](#) | [Forbes](#) | [New York Times](#) | [Wired](#)

On Wed, May 15, 2013 at 10:40 AM, Dorgelo, Cristin (b) (6) wrote:

Tom, Kathryn, Rob, Sebastian, and Matt:

We're so glad you can join our White House Google+ Hangout on Thursday, May 16<sup>th</sup>. Below is some useful information to make sure you look and sounds good during the live event.

### **Tips for Participants**

- Find a very quiet place for the hangout – even small background noises can be distracting for other participants and viewers. The location should be well-lit, and you may consider an interesting background or props that you can discuss.
- Ensure that you only have the Google+ hangout open in one screen – if, for example, you have [whitehouse.gov/live](http://whitehouse.gov/live) open or [youtube.com/whitehouse](http://youtube.com/whitehouse) open, you will create a feedback loop that will create an echo in the hangout.
- Double check your internet connection is stable prior to the hangout.
- Frame the camera shot so that your eyes rest at approximately the top 1/3 of the screen.
- Email me (Cristin a (b) (6) with a cell number where you (or a staffer) can be reached in case we run into any issues. For your reference, my cell is (b) (6)

### **Technical Requirements**

- Google+ account (you can sign up for free with any gmail email address)
- A computer with good internet connection, working audio, and a video camera
- Headphones that can be plugged into the computer in case of audio feedback issues

### **Thursday's Schedule**

**1:30 p.m. EDT** Kori Schulman will email a unique Hangout link to YOU. As soon as YOU receive the link, please click on the link to join the hangout (this can be YOU or a staffer). This is important to enable us to troubleshoot any tech issues and make sure everyone looks and sounds good.

*Note: If YOU are logged into Google+, YOU will automatically join the hangout when YOU click the link distributed. This is a private link for participants, and should not be shared. For viewing, YOU can encourage people to tune-in at [WH.gov/live](http://WH.gov/live) and at <https://plus.google.com/+whitehouse>*

**2:00 p.m. EDT** – The Google+ Hangout will switch to LIVE and will be streamed on the White House Google+ page and on WhiteHouse.gov.

## **RUN OF SHOW:**

Start time 2:00 p.m. EDT

- Tom & Cristin: Welcome & brief overview (2 minutes)
- Tom introduces each participant
- Each participant says hello, glad to be here — with a quick 1 sentence intro (first and last name, org/title, location)
- Tom will ask participants questions.
- Participants respond, and may engage in a dialogue. This is a conversational format, so feel free to add comments and input throughout.
- Tom will invite participants to engage in discussion and ask each other (including Tom/Cristin) questions.
- Given time, Tom will ask participants to each respond to a closing question.
- Tom will thank everyone who participated and may note that members of the administration will continue the dialogue with citizens through the Google+ hangout medium.

End time: 2:45 p.m. EDT

Let me know if you have any questions!

Best,

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

---

**From:** Dorgelo, Cristin  
**Sent:** Tuesday, May 14, 2013 3:09 PM  
**To:** Kalil, Thomas A.  
**Cc:** Larson, Phillip P. (b) (6)  
**Subject:** Thursday 2 PM EDT: White House Hangout: Grand Challenges

Tom, Kathryn, Rob, Sebastian, and Matt:

Thank you for agreeing to participate in this Thursday's White House Hangout on Grand Challenges – the first in a new ongoing series of White House Hangouts called “We the Geeks” that will explore topics like Grand Challenges, commercial space exploration, STEM education, science fiction becoming science fact, and more!

A few notes for you:

- Time: We'll go on the air at 2 PM EDT. We'd ask that you (or your designated representative) log in to the hangout (more instructions coming soon on how to do that!) 15 minutes prior, at 1:45 PM EDT, in order to test the audio -video connection.
- Spread the word! We've posted a White House Blog promoting this We the Geeks Hangout. Link and full copy below. Please amplify through your own networks and on Twitter, you can use hashtag #WeTheGeeks and a link to this blog post.

- Format: This will be a casual and engaging discussion moderated by Tom Kalil. If you have any questions about format/content, you can take a look at this Hangout we did on the Maker Movement or drop me an email or call (b) (6) or cel (b) (6)

- Background: I've attached a backgrounder on the White House Grand Challenges initiative in case it is useful background information for you.

Any questions?

Again, really appreciate your willingness to participate. This should be a very fun and engaging discussion!

All best,

Cristin

<http://www.whitehouse.gov/blog/2013/05/14/hanging-out-we-geeks>

## Hanging out with “We the Geeks”

Posted by Cristin Dorgelo on May 14, 2013 at 02:35 PM EDT

*Note: Watch the first “We the Geeks” Hangout on Thursday, May 16, at 2:00 p.m. EDT on [WhiteHouse.gov](#) and on the [White House Google+ page](#). You can join the conversation on Twitter with the hashtag #WeTheGeeks.*

On May 16th, the White House is kicking off “We the Geeks,” a new series of Google+ Hangouts to highlight the future of science, technology, and innovation here in the United States. Topics such as commercial space exploration, science, technology, engineering, and math (STEM) education, turning science fiction to science fact, and others will be discussed with Administration officials and key private sector contributors.

The first We the Geeks Hangout will focus on Grand Challenges, ambitious goals on a national or global scale that capture the imagination and demand advances in innovation and breakthroughs in science and technology. Grand Challenges are an important element of President Obama's Strategy for American Innovation. On April 2nd, the President called on companies, research universities, foundations, and philanthropists to join with him in identifying and pursuing the Grand Challenges of the 21<sup>st</sup> century.

An example of a past Grand Challenge was the sequencing of the entire human genome that, according to one recent study, has contributed to the U.S. economy more than \$140 for every \$1 invested by the Federal government. President Obama just announced the BRAIN Initiative, a bold new research effort to revolutionize our understanding of the human mind and uncover new ways to treat, prevent, and cure brain disorders like Alzheimer's, schizophrenia, autism, epilepsy, and traumatic brain injury. The Department of Energy is leading the way in Clean Energy Grand Challenges with SunShot, an initiative to make

solar energy as cheap as coal, and EV Everywhere, an initiative announced by President Obama to make electric vehicles as affordable and convenient to own as today's gasoline -powered vehicles.

The Obama Administration supports the identification and pursuit of Grand Challenges because the approach can:

- help solve important economic and societal problems;
- serve as a "North Star" for high -impact, multi-disciplinary collaborations among government, industry, universities, non -profits, and philanthropists;
- create a foundation for industries and jobs of the future;
- capture public imagination and increase support for public policies that foster science, technology, and innovation; and
- inspire the next generation of scientists, engineers, and entrepreneurs.

In addition to Federal investments, there are a growing number of companies, foundations, philanthropists, and research universities that are interested in pursuing Grand Challenges. During this Thursday's We the Geeks Hangout, I'll join White House Office of Science and Technology Policy's Deputy Director for Technology and Innovation Tom Kalil and an extraordinary panel of innovators from around the country to discuss the elements of an "all hands on deck" effort to pursue Grand Challenges. Participants include:

- Matt Grob, Executive Vice President and Chief Technology Officer, Qualcomm Technologies, Inc., to discuss the Qualcomm Tricorder XPRIZE and other bold research initiatives at Qualcomm
- Rob High, IBM Fellow, Vice President, and Chief Technology Officer, IBM Watson Solutions, to discuss what's next for Watson and the field of cognitive computing
- Kathryn Latham, recent graduate from Duke University with a degree in engineering and participant in the National Academy of Engineering Grand Challenge Scholars Program
- Sebastian Thrun, a research professor at Stanford, a Google Fellow, and a co -founder of Udacity, to discuss Google's self-driving car and Google X

So tune in **Thursday, May 16, at 2:00 p.m. EDT** on [WhiteHouse.gov](http://WhiteHouse.gov) and on the [White House Google+ page](#), as we begin a new series of future-focused Hangouts from the White House.

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

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**From:** Dorgelo, Cristin  
**Sent:** Thursday, May 16, 2013 11:40 AM  
**To:** Laura Nelson  
**Cc:** Sergio Gandara  
**Subject:** RE: Logistics: White House Grand Challenges Hangout

Audience: This is open to the general public, and has been promoted broadly via social media to wide network of White House stakeholders (you can follow along at [www.wh.gov/live](http://www.wh.gov/live)).

**From:** Laura Nelson [mailto: (b) (6)]  
**Sent:** Wednesday, May 15, 2013 7:20 PM  
**To:** Dorgelo, Cristin  
**Cc:** Laura Nelson; Sergio Gandara  
**Subject:** Re: Logistics: White House Grand Challenges Hangout

Hi Cristin,

Great, thanks for letting me know. That should be ok. Sebastian will be sure to let you know if there is something that he cannot talk about. Can you also let me know who the audience will be?

Thanks!

Laura Nelson | Udacity | o (b) (6) | (b) (6) | (b) (6)

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More about Udacity:

[Udacity](#) | [Forbes](#) | [New York Times](#) | [Wired](#)

On Wed, May 15, 2013 at 12:02 PM, Dorgelo, Cristin (b) (6) wrote:

Hi Laura:

Tom will ask Sebastian to describe the grand challenge he's pursuing (we'd like to focus on self-driving cars, but if he'd like to use "democratizing education" as an additional example, that's great too).

Another question Tom will likely ask Sebastian beyond asking about Sebastian's work on self-driving cars is "What is the importance of moonshots (such as R&D to advance self-driving cars)?" That is certainly Google X-related, but something we hope Sebastian can provide his own opinion on as well (his answer doesn't have to be about Google x).



And it is definitely OK if we skip Google Glass if that is outside of Sebastian's area of focus.

Otherwise, I expect the discussion to be relatively casual and free-form between the participants.

One note: If he doesn't already have a Google+ account associated with one of the email addresses below, you might want to set that up before tomorrow's log-in time.

Best,

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**Cc:** Sergio Gandara  
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### **Tips for Participants**

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Best,  
  
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**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

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<http://www.whitehouse.gov/blog/2013/05/14/hanging-out-we-geeks>

## Hanging out with "We the Geeks"

Posted by Cristin Dorgelo on May 14, 2013 at 02:35 PM EDT

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**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Tuesday, May 21, 2013 8:44 AM  
**To:** Johanna Shelton  
**Subject:** RE: Software patent followup

1pm Thursday?

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Monday, May 20, 2013 7:29 PM  
**To:** Edelman, R. David  
**Subject:** Re: Software patent followup

Thurs anytime is great.

Fri may be tougher - 11am?

On Mon, May 20, 2013 at 4:51 PM, Edelman, R. David (b) (6) wrote:  
Sure -- later this week is better. How are Thu or Fri?

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Monday, May 20, 2013 02:07 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: Software patent followup

any time this week to talk patents?

On Thu, May 16, 2013 at 1:36 PM, Johanna Shelton (b) (6) wrote:  
David - do you have some open times next week for us to come and discuss software patent issues? it would probably be me and our patent policy person in DC (Suzanne Michel). let me know what works well for you  
  
thanks!

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)



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(b) (6) Google Voice  
(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Tuesday, May 21, 2013 10:59 AM  
**To:** Johanna Shelton  
**Subject:** RE: Software patent followup  
**Attachments:** Blank WAVES 2.0.xls

Great. Please complete and return to me. Thanks.

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, May 21, 2013 10:58 AM  
**To:** Edelman, R. David  
**Subject:** Re: Software patent followup

done - lock it in - i will bring Suzanne Michel.

On Tue, May 21, 2013 at 8:43 AM, Edelman, R. David (b) (6) wrote:  
  
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(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Wednesday, May 22, 2013 9:18 AM  
**To:** Johanna Shelton  
**Subject:** RE: Software patent followup

I can drag in a chair or find a room, no worries.

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, May 21, 2013 6:56 PM  
**To:** Edelman, R. David  
**Subject:** Re: Software patent followup

one of us can stand - Alex is a young guy but he's been working hard so i'd love to let him come if at all possible.

On Tue, May 21, 2013 at 6:40 PM, Edelman, R. David (b) (6) wrote:  
Ah damn now I have to find another room. Will circle back if I can. My office seats two guests I fear.

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Tuesday, May 21, 2013 06:39 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: Software patent followup

we added one more on our end - me, Suzanne Michel and Alex Long.

here is security info

see you Thurs at 1

On Tue, May 21, 2013 at 10:58 AM, Edelman, R. David (b) (6) wrote:

Great. Please complete and return to me. Thanks.

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**Subject:** Re: Software patent followup

any time this week to talk patents?

On Thu, May 16, 2013 at 1:36 PM, Johanna Shelton (b) (6) wrote:

David - do you have some open times next week for us to come and discuss software patent issues? it would probably be me and our patent policy person in DC (Suzanne Michel). let me know what works well for you

thanks!

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
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Washington, DC 20005

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(b) (6)

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**From:** Edelman, R. David  
**Sent:** Tuesday, May 21, 2013 6:41 PM  
**To:** 'Johanna Shelton'  
**Subject:** RE: Software patent followup

Ah damn now I have to find another room. Will circle back if I can. My office seats two guests I fear.

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Tuesday, May 21, 2013 06:39 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: Software patent followup

we added one more on our end - me, Suzanne Michel and Alex Long.

here is security info

see you Thurs at 1

On Tue, May 21, 2013 at 10:58 AM, Edelman, R. David (b) (6) wrote:

Great. Please complete and return to me. Thanks.

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, May 21, 2013 10:58 AM

**To:** Edelman, R. David  
**Subject:** Re: Software patent followup

done - lock it in - i will bring Suzanne Michel.

On Tue, May 21, 2013 at 8:43 AM, Edelman, R. David (b) (6) wrote:

1pm Thursday?

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Monday, May 20, 2013 7:29 PM

**To:** Edelman, R. David  
**Subject:** Re: Software patent followup

Thurs anytime is great.

Fri may be tougher - 11am?

On Mon, May 20, 2013 at 4:51 PM, Edelman, R. David (b) (6) wrote:

Sure -- later this week is better. How are Thu or Fri?

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Monday, May 20, 2013 02:07 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: Software patent followup

any time this week to talk patents?

On Thu, May 16, 2013 at 1:36 PM, Johanna Shelton (b) (6) wrote:

David - do you have some open times next week for us to come and discuss software patent issues? it would probably be me and our patent policy person in DC (Suzanne Michel). let me know what works well for you

thanks!

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(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Thursday, May 23, 2013 12:07 PM  
**To:** Johanna Shelton  
**Subject:** RE: mtg request - Google General Counsel

Thanks, will flag.

**From:** Johanna Shelton [mailto: (b) (6)]  
**Sent:** Thursday, May 23, 2013 11:58 AM  
**To:** Edelman, R. David  
**Subject:** Fwd: mtg request - Google General Counsel

see below for last minute request from Kent -

----- Forwarded message -----

**From:** Johanna Shelton (b) (6)  
**Date:** Thu, May 23, 2013 at 11:57 AM  
**Subject:** mtg request - Google General Counsel  
**To:** "Schumer, Jessica E." (b) (6)

Google's General Counsel Kent Walker will be in DC next week (Tues May 28th and Wed May 29th), and was wondering if Jason had time to sit down briefly to discuss some developments and ideas to address patent quality issues.

Does Mr. Furman have any availability next Tues or Wed for a brief meeting?

thank much

- johanna

--  
Johanna Shelton  
Senior Policy Counsel  
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(b) (6)

--  
Johanna Shelton  
Senior Policy Counsel

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(b) (6)

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**From:** Kalil, Thomas A.  
**Sent:** Friday, May 24, 2013 12:47 PM  
**To:** (b) (6)  
**Cc:** Nelson, Greg  
**Subject:** Urgent - meet with head of White House National Economic Council?

Dear Sebastian:

Thanks again for doing the Google Hangout on Grand Challenges – that was lots of fun!

Apologies for the last minute request, but are you available to meet with Gene Sperling next Tuesday afternoon (May 28<sup>th</sup>) in downtown San Francisco? Gene is the head of the White House National Economic Council, and is very interested in MOOCs and the role that they can play in expanding access to higher education. I'm sure he would also be interested in your work for Google X and self-driving cars.

His schedule is fluid, but it looks like 2:30 – 4:30 will be available.

I am copying Greg Nelson – Gene's chief of staff.

All the best,

Tom



---

**From:** Edelman, R. David  
**Sent:** Wednesday, May 29, 2013 3:11 PM  
**To:** Johanna Shelton  
**Cc:** Miller, Jason  
**Subject:** RE: manufacturing inshoring contact

Johanna,

My pleasure. Thanks for sharing your views.

I'm adding Jason Miller, who is our manufacturing guru. He wanted to follow up with some questions and request for paper. Hopefully you can connect this afternoon.

Thanks,  
-David

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Wednesday, May 29, 2013 1:27 PM  
**To:** Edelman, R. David  
**Subject:** manufacturing inshoring contact

great to see you today - many thanks for helping make that happen. Kent found it a very useful meeting.

when you get a chance, let me know who to reach out to re our manufacturing announcements and later follow up.

thanks!

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Astro Teller (b) (6)  
**Sent:** Monday, January 14, 2013 5:11 PM  
**To:** Kalil, Thomas A.; Will Patrick; Kathy Cooper; Megan Smith  
**Cc:** (b) (6)  
**Subject:** Re: Google Solve for X

Hi Tom,

I'm very sorry we won't be able to have you there but we would be very happy to have Cristin in your place. Please have her contact Will or Kathy to get registered and for travel details.

Hopefully we can have you next year!

:)

A

On Mon, Jan 14, 2013 at 8:50 AM, Kalil, Thomas A. (b) (6) wrote:

Dear Astro:

The President has scheduled his SOTU for the week after Solve for X, which unfortunately means I will be chained to my desk.

If you would be open to this, I could see if Cristin Dorgelo, who is OSTP's Assistant Director for Grand Challenges, would be able to participate.

Sorry about this – and thanks so much for the invitation.

All the best,

Tom

**From:** Erin Hughes [mailto:(b) (6)]  
**Sent:** Monday, January 14, 2013 10:19 AM  
**To:** Kalil, Thomas A.  
**Subject:** Google Solve for X

Hello,

I am contacting you from Google Solve for X in regards to your accommodations and travel in February. You stated on your registration form that you have restrictions; I would like to clarify with you what specifically your restrictions are for. Will you need to stay at a different hotel than the group is staying at? We can provide another hotel if needed. The registration form also indicated you will be arranging your own travel. Can you send me your flight itinerary for February's meeting in San Martin when available? We would like to document arrival and departure times for check in and out at the hotel. Finally, I would like to confirm with you that you are all set with ground transportation to and from the airport.

Thank you for your time. Let me know if you have any questions.

Arrival Day: Wednesday, February 6, 2013

Departure Day: Friday, February 8, 2013

Hotel: CordeValle Resort  
One CordeValle Club Drive  
San Martin, CA 95046

Thank you,

**ERIN HUGHES** | MEETING COORDINATOR

O: (b) (6) | F: (b) (6)

1000 Town Center, Suite 570, Southfield, MI 48075 USA | [www.tbaglobal.com](http://www.tbaglobal.com)

--

- Astro



**From:** Edelman, R. David  
**Sent:** Sunday, June 02, 2013 9:53 PM  
**To:** 'Johanna Shelton'  
**Cc:** 'Pamela Howell'  
**Subject:** RE: Follow-up w/ Kent

Thanks, Johanna!

For timing, Monday would definitely be preferable, if he is free.

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Sunday, June 02, 2013 09:36 PM Eastern Standard Time  
**To:** Edelman, R. David; Pamela Howell  
**Cc:** Schumer, Jessica E.  
**Subject:** Re: Follow-up w/ Kent

absolutely - adding Pam. Pam, what works for Kent late Monday or early Tuesday?

On Sun, Jun 2, 2013 at 8:16 PM, Edelman, R. David (b) (6) wrote:

Johanna,

Thanks for organizing the meeting with Kent last week. Jason and I would like to follow up with him via phone on our conversation, perhaps sometime tomorrow late evening Eastern time or (alternatively) Tuesday morning. Could we get your help with that?

Cc:ing Jess, who can help with Jason's schedule as well.

Thanks,

-David

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

direct: (202) (b) (6) | topline: (202) (b) (6) | (b) (6)

--

Johanna Shelton

Senior Policy Counsel

Google Inc.

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Washington, DC 20005

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(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Sunday, June 02, 2013 10:28 PM  
**To:** Pamela Howell  
**Cc:** Johanna Shelton; Schumer, Jessica E.  
**Subject:** RE: Follow-up w/ Kent

Looping Jess, though likely after 6 given what I know about our schedules tomorrow. TBC. Thanks Pam!

-rD

**From:** Pamela Howell [mailto:(b) (6)]  
**Sent:** Sunday, June 02, 2013 10:00 PM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton  
**Subject:** RE: Follow-up w/ Kent

Hello! Would sometime in the 4:30-7pm ET range work for Monday?

Thanks,  
Pam

On Jun 2, 2013 6:52 PM, "Edelman, R. David" (b) (6) wrote:  
Thanks, Johanna!

For timing, Monday would definitely be preferable, if he is free.

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Sunday, June 02, 2013 09:36 PM Eastern Standard Time  
**To:** Edelman, R. David; Pamela Howell  
**Cc:** Schumer, Jessica E.  
**Subject:** Re: Follow-up w/ Kent

absolutely - adding Pam. Pam, what works for Kent late Monday or early Tuesday?

On Sun, Jun 2, 2013 at 8:16 PM, Edelman, R. David (b) (6) wrote:

Johanna,

Thanks for organizing the meeting with Kent last week. Jason and I would like to follow up with him via phone on our conversation, perhaps sometime tomorrow late evening Eastern time or (alternatively) Tuesday morning. Could we get your help with that?



Cc:ing Jess, who can help with Jason's schedule as well.

Thanks,

-David

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

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1100

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Washington, DC 20005  
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(b) (6)

---

**From:** Kathy Cooper (b) (6)  
**Sent:** Tuesday, January 15, 2013 12:27 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Hi Cristin,

Thanks for reaching out - we would love to have you at Solve for X!

Please [register here](#) at your earliest convenience. I've also given you access to our 2013 Solve for X event website, so you should be able to find it [here](#). Please let me know if that isn't working for some reason, and I will investigate.

I look forward to meeting you soon!  
Kathy

On Mon, Jan 14, 2013 at 6:33 PM, Dorgelo, Cristin (b) (6) wrote:

Hi Kathy:

Tom Kalil (White House OSTP's Deputy Director for Policy), who was confirmed to attend Solve for X, will unfortunately be unable to attend the event and has asked that I attend in his stead.

If it is okay that I fill in for him, what do I need to know about attendance/registration?

Many thanks,

Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

<http://www.whitehouse.gov/ostp/blog>

Twitter: @WhiteHouseOSTP

**Importance:** High

<><><><><><><><><>

direct: (202 (b) (6)) | topline: (202 (b) (6))

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**From:** Edelman, R. David  
**Sent:** Tuesday, June 04, 2013 9:23 PM  
**To:** Johanna Shelton  
**Subject:** RE: coverage

Thanks! I was particularly looking for Google's own statements – saw a quote from Kent by it was excerpted in most of the stories. Do you have the full quote/release?

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, June 04, 2013 9:21 PM  
**To:** Edelman, R. David  
**Subject:** coverage

here's what we compiled - hope it's useful. let me know if you want anything else.

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
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Washington, DC 20005  
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(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Tuesday, June 04, 2013 9:34 PM  
**To:** Johanna Shelton  
**Subject:** RE: coverage

Fantastic, must have been lost in the shuffle. We had the excerpt, which was great as well. Thanks!

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, June 04, 2013 9:33 PM  
**To:** Edelman, R. David  
**Subject:** Re: coverage

here is the full quote -

Kent Walker, Google's senior vice president and general counsel: "The White House proposals will help stem the rising tide of patent troll lawsuits. We welcome the Administration's steps to improve patent quality and prevent litigation abuse, and we look forward to working with leaders from both parties on further legislative improvements that are critical to economic growth."

On Tue, Jun 4, 2013 at 9:32 PM, Johanna Shelton (b) (6) wrote:  
sure - sent it to you earlier. will resend

On Tue, Jun 4, 2013 at 9:23 PM, Edelman, R. David (b) (6) wrote:

Thanks! I was particularly looking for Google's own statements - saw a quote from Kent by it was excerpted in most of the stories. Do you have the full quote/release?

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, June 04, 2013 9:21 PM  
**To:** Edelman, R. David  
**Subject:** coverage

here's what we compiled - hope it's useful. let me know if you want anything else.

--  
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Washington, DC 20005

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(b) (6)

---

**From:** Kathy Cooper (b) (6)  
**Sent:** Tuesday, January 15, 2013 4:19 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Hi Cristin,

The registration form will ask if you'd like any help with travel arrangements - if so, we have a travel agency that can help you book the travel.

Does that answer your question? Please let me know if any additional information would be helpful.

Kathy

On Tue, Jan 15, 2013 at 9:31 AM, Dorgelo, Cristin (b) (6) wrote:

Thanks Kathy, will do. Is there anything I should know about travel arrangements logistics?

Appreciate your help,

Cristin

**From:** Kathy Cooper [mailto:(b) (6)]  
**Sent:** Tuesday, January 15, 2013 12:27 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Hi Cristin,

Thanks for reaching out - we would love to have you at Solve for X!

Please [register here](#) at your earliest convenience. I've also given you access to our 2013 Solve for X event website, so you should be able to find it [here](#). Please let me know if that isn't working for some reason, and I will investigate.



I look forward to meeting you soon!  
Kathy

On Mon, Jan 14, 2013 at 6:33 PM, Dorgelo, Cristin (b) (6) wrote:

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Many thanks,

Cristin

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Executive Office of the President  
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(b) (6)

<http://www.whitehouse.gov/ostp/blog>

Twitter: @WhiteHouseOSTP

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**From:** Michael Terrell (b) (6)  
**Sent:** Thursday, January 17, 2013 3:39 PM  
**To:** Sinai, Nick  
**Cc:** Mielke, Dawn M.  
**Subject:** Re: Google to work with Energy Foundation to promote intelligent energy use

That would be great. Sometime between 4:00 -5:00pm is best for me.

On Thu, Jan 17, 2013 at 2:27 PM, Sinai, Nick (b) (6) wrote:  
Should we put something on the calendar on Jan 28+? Dawn can help find a time

---

**From:** Michael Terrell [mailto:(b) (6)]  
**Sent:** Thursday, January 17, 2013 12:45 PM

**To:** Sinai, Nick  
**Subject:** Re: Google to work with Energy Foundation to promote intelligent energy use

Wow, congrats!! Beautiful. Now I know for sure you aren't getting any sleep.

On Thu, Jan 17, 2013 at 12:43 PM, Sinai, Nick (b) (6) wrote:

**From:** Michael Terrell [mailto:(b) (6)]  
**Sent:** Thursday, January 17, 2013 12:42 PM

**To:** Sinai, Nick  
**Subject:** Re: Google to work with Energy Foundation to promote intelligent energy use

TWO????? :-)

On Thu, Jan 17, 2013 at 12:37 PM, Sinai, Nick (b) (6) wrote:

Sorry about that! Two are quite a handful...

**From:** Michael Terrell [mailto:(b) (6)]  
**Sent:** Wednesday, January 16, 2013 11:14 PM

**To:** Sinai, Nick

**Subject:** Re: Google to work with Energy Foundation to promote intelligent energy use

Hey, I've been trying to get in touch (!!!). Congrats!!!

We should definitely talk when you are back, much to discuss. Very excited about this grant.

Let me know when you are back in the office. Hope you are getting some sleep.

On Wed, Jan 16, 2013 at 6:21 PM, Sinai, Nick (b) (6) wrote:

Congrats! Looking forward to engaging on this when I'm back from paternity leave

**From:** Michael Terrell [mailto:(b) (6)]

**Sent:** Monday, January 14, 2013 9:47 AM

**To:** Michael Terrell

**Subject:** Google to work with Energy Foundation to promote intelligent energy use

Dear colleague -

I wanted to make sure you saw this announcement today from Google (see below).

We are giving a \$2.65M grant to the Energy Foundation to support more intelligent use of energy. The grant will establish a campaign to support policies that make the grid more robust and efficient by optimizing real-time energy management in homes and supporting open energy markets.

We hope this effort will help to catalyze change and unleash innovation in homes and businesses.

I would be happy to answer any questions you might have and to discuss ways to work together to move these issues forward.

Best,  
Michael

\*\*\*

## Paving a path to intelligent energy use

1/14/13 | 6:30:00 AM

One of the best parts about working at Google is the chance to use the Internet and digital technology to help us all manage energy better. We've seen big changes in recent years to the way we watch TV, use phones, read and listen to music, yet how we use electricity hasn't changed much in decades.

What if instead of a monthly bill we had access to more real-time and actionable information about our electricity consumption? What if our appliances, air conditioners, and lights adjusted automatically to use energy more efficiently and save money? If we did this in every home it would help improve the reliability of the grid and save billions of dollars.

Technology like smart meters and programmable thermostats make it possible to do this today. The challenge is that the rules governing electricity distribution were written for last century's grid. That's why Google.org is giving a \$2.65M grant to the Energy Foundation to support policy reforms that will lead to more intelligent energy use. The effort will focus on three fundamental areas:

- Smarter electricity rates that encourage consumers to be more efficient, shift their electricity use to times when it's cheaper and produce their own on-site energy;
- Access to electricity markets for consumers and other businesses so they can be compensated for cutting energy use at key times; and
- Open data policies that give customers access to their own energy data, which they can use or share with third parties they select, promoting better energy management tools and services.

These policy reforms, coupled with the new technologies now being deployed on a large scale, can empower consumers to make smarter energy choices, improve real-time management of the electricity grid, and help facilitate more renewable energy all while lowering overall costs.

We hope this grant will help catalyze change and look forward to seeing progress in the years to come.

Posted by Michael Terrell, Senior Policy Counsel, Energy & Sustainability

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Michael Terrell | Senior Policy Counsel | Google Inc. | (b) (6) c (b) (6)

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Michael Terrell | Senior Policy Counsel | Google Inc. | (b) (6) c (b) (6)

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Michael Terrell | Senior Policy Counsel | Google Inc. (b) (6) c (b) (6)

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Michael Terrell | Senior Policy Counsel | Google Inc. | (b) (6) c (b) (6)

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Michael Terrell | Senior Policy Counsel | Google Inc. | (b) (6) c (b) (6)

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**From:** Kathy Cooper (b) (6)  
**Sent:** Thursday, January 17, 2013 7:26 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Hi Cristin,

Do you happen to have a Google account? If so, please let me know what it is - we've been seeing some site access error with non-Google accounts.

If you do not have an account, please let me know and I'll figure out another way for you to access the site.

Thank you!  
Kathy

On Thu, Jan 17, 2013 at 4:19 PM, Dorgelo, Cristin (b) (6) wrote:

Hi Kathy:

I don't seem to be able to get into event website (I'm getting an "access forbidden" message when I go to this link: <http://2013.solveforx.com/#home>).

Thanks for your help!

Cristin

**From:** Kathy Cooper [mailto:(b) (6)]  
**Sent:** Tuesday, January 15, 2013 12:27 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Hi Cristin,

Thanks for reaching out - we would love to have you at Solve for X!

Please [register here](#) at your earliest convenience. I've also given you access to our 2013 Solve for X event website, so you should be able to find it [here](#). Please let me know if that isn't working for some reason, and I will investigate.

I look forward to meeting you soon!  
Kathy

On Mon, Jan 14, 2013 at 6:33 PM, Dorgelo, Cristin (b) (6) wrote:

Hi Kathy:

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If it is okay that I fill in for him, what do I need to know about attendance/registration?

Many thanks,

Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

<http://www.whitehouse.gov/ostp/blog>

Twitter: @WhiteHouseOSTP



---

**From:** Kathy Cooper (b) (6)  
**Sent:** Thursday, January 17, 2013 7:30 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Great! Thanks for the quick reply. You should now have access with that address.

I also wanted to note: you'll be added to the website today or tomorrow at the latest. You're not quite there yet because we haven't updated it since we received your registration, but you'll be added!

---

**From:** Kathy Cooper (b) (6)  
**Sent:** Thursday, January 17, 2013 7:52 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Great :)

On Thu, Jan 17, 2013 at 4:37 PM, Dorgelo, Cristin (b) (6) wrote:

Thanks for your help Kathy! I've got access. (And *no* worries re: me on the site.)

**From:** Kathy Cooper [mailto:(b) (6)]  
**Sent:** Thursday, January 17, 2013 7:30 PM

**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X

Great! Thanks for the quick reply. You should now have access with that address.

I also wanted to note: you'll be added to the website today or tomorrow at the latest. You're not quite there yet because we haven't updated it since we received your registration, but you'll be added!

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, January 18, 2013 5:35 PM  
**To:** Edelman, R. David  
**Subject:** Fwd: Google Inauguration Brunch  
**Attachments:** Google Inauguration Brunch Invitation.pdf

hey there - we don't have many rsvp's from OSTP or NEC - let me know if you or anyone else wants to come. heard you had a nice talk with Justin.

(this is a PDF version of invite since our other one may not be making it through filters etc)

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

Google, the Center for American Progress, and ELLE  
invite you to an Inaugural Brunch

*A Sunday afternoon celebrating*

<sup>2</sup> L E A D I N G

<sup>0</sup> W O M E N <sup>1</sup> I N

<sup>3</sup> W A S H I N G T O N

*Sunday, January 20, 2013*

12:00 p.m. to 3:00 p.m.

Please attend at any time convenient

*Smithsonian American Art Museum*

*National Portrait Gallery*

Luce Foundation Center, 3rd floor  
8th and F Streets NW

Valet parking will be available on F Street

Please RSVP here

*Have a question?*

Email us at [info@inaugurationevent2013.com](mailto:info@inaugurationevent2013.com)

This invitation is nontransferable

Go gle

Center for American Progress

ELLE

[illegible]

You received the "Google, CAP & ELLE Inaugural Brunch" invitation because you are involved in the Google community or have attended Google events in the past. If you no longer wish to receive information regarding the "Google, CAP & ELLE Inaugural Brunch" please enter your email address [here](#).

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**From:** Stebbins, Michael J.  
**Sent:** Monday, June 10, 2013 12:37 PM  
**To:** (b) (6)  
**Cc:** (b) (6)  
**Subject:** Champions of Change

Hi George,

I wanted to reach out to you to see if you might be able to help us get in touch with one of your colleagues Rebecca Moore? She is Manager of Google Earth Outreach at Google, and the lead from Google on the Google Timelapse Project.

We tried to reach Ms. Moore by email and phone to share with her that she has been nominated as a Champion of Change on Open Science! The Champions of Change program was created as a part of President Obama's Winning the Future initiative. Each week, the White House Champions of Change program highlights individuals, businesses, and organizations whose extraordinary stories and accomplishments positively impact our communities. The upcoming Champions of Change on Open Science will recognize outstanding individuals, organizations, or research projects promoting and using open scientific data to dramatically accelerate breakthroughs and create new businesses.

In order to process Ms. Moore's nomination, we need to get some additional information. Would you be able to help us get in touch with her directly? Or if you could share the best email address and phone number to contact her at that would be much appreciated.

Thank you in advance for your time and help on this. We look forward to hearing from you soon.

Thank you, Mike

---

**From:** Edelman, R. David  
**Sent:** Sunday, June 09, 2013 9:51 PM  
**To:** 'Ross LaJeunesse'  
**Subject:** RE: NYT piece

Thanks, Ross.

-----Original Message-----

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Sunday, June 02, 2013 12:28 PM Eastern Standard Time  
**To:** Sepulveda, Daniel A; Painter, Christopher M; Baer, Daniel B; Edelman, R. David  
**Subject:** NYT piece

hey guys

i don't normally send articles around and i'm sure you've already read it, but wanted to be sure you saw this in the NYT: [China's Economic Empire](#)

although it doesn't address the internet or internet governance directly, it articulates many of the same arguments we've been making about china's rapidly evolving role in the world, including its "soft power" (although i would argue "hard power" is a more appropriate term) on a wide range of economic and policy issues.

ross

--

**Ross LaJeunesse**  
Global Head of Free Expression and International Relations  
Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

---

**From:** Stebbins, Michael J.  
**Sent:** Tuesday, June 11, 2013 10:34 AM  
**To:** George Ivanov (b) (6)  
**Subject:** FW: Champions of Change

-----Original Message-----

**From:** Stebbins, Michael J.  
**Sent:** Monday, June 10, 2013 12:37 PM  
**To:** (b) (6)  
**Cc:** (b) (6)  
**Subject:** Champions of Change

Hi George,

I wanted to reach out to you to see if you might be able to help us get in touch with one of your colleagues Rebecca Moore? She is Manager of Google Earth Outreach at Google, and the lead from Google on the Google Timelapse Project.

We tried to reach Ms. Moore by email and phone to share with her that she has been nominated as a Champion of Change on Open Science! The Champions of Change program was created as a part of President Obama's Winning the Future initiative. Each week, the White House Champions of Change program highlights individuals, businesses, and organizations whose extraordinary stories and accomplishments positively impact our communities. The upcoming Champions of Change on Open Science will recognize outstanding individuals, organizations, or research projects promoting and using open scientific data to dramatically accelerate breakthroughs and create new businesses.

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Thank you in advance for your time and help on this. We look forward to hearing from you soon.

Thank you, Mike



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**From:** Edelman, R. David  
**Sent:** Tuesday, June 11, 2013 3:41 PM  
**To:** Johanna Shelton  
**Subject:** RE: Google open letter re FISA transparency

Thanks, Johanna, for the heads-up.

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, June 11, 2013 1:40 PM  
**To:** Edelman, R. David  
**Subject:** Google open letter re FISA transparency

David -

Attached please find a letter that Google has just sent to the DOJ and FBI. As the letter indicates, we intend to make this open letter public.

Please let me know if you have any questions - i can be reached at (b) (6)

- Johanna

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Hal Varian (b) (6)  
**Sent:** Saturday, January 19, 2013 8:38 PM  
**To:** Kalil, Thomas A.  
**Subject:** undergrad statistics resource for non-majors

<http://www.dartmouth.edu/~chance/index.html>

Hey, Tom, what are your plans. I'm going to be at Google DC, Feb 12-13. Want to come to a group dinner there on Feb 12?

---

**From:** Hal Varian (b) (6)  
**Sent:** Sunday, January 20, 2013 1:39 AM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non-majors

Sure, that will work.

On Sat, Jan 19, 2013 at 5:42 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Hal:

Feb 12<sup>th</sup> is SOTU, so we are usually busy then.

Coffee on Feb 13<sup>th</sup>?

Best,

Tom

**From:** Hal Varian [mailto:(b) (6)]  
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**From:** Hal Varian (b) (6)  
**Sent:** Sunday, January 20, 2013 3:53 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non-majors

On Sun, Jan 20, 2013 at 6:48 AM, Kalil, Thomas A. (b) (6) wrote:

Great. How about 8 am at Caribou Coffee – 17<sup>th</sup> and Penn. My cell phone i (b) (6)

That's 5 AM California time, can we do it later? I think we will end up moving the dinner due to the SOTU, thanks for alerting me on that.

Two economic ideas I am having trouble r econciling that maybe you can straighten out for me.

- The Robert Gordon view – IT revolution not that big a deal relative to the previous industrial revolutions (we'd all trade our iPad for indoor plumbing) maybe increases in GPD/capita from 17 50 – 2000 were a one time event

My grandfather told me that "when I was born people got around on horses, but I lived to see men walk on the moon." That's a lot of progress in 70 years! I would agree with Gordon that the period from 1870 -1970 had huge technological progress, so perhaps we suffer by comparison. On the other hand, TV and the Internet have probably had a larger impact on peoples' lives around the world than the moon landing.

- Race Against the Machine – advances in machine lea rning, IT, robotics etc. are such a big deal that share of GDP going to labor could decline significantly

My view on this is that we will just have more leisure. The workweek has fallen from 72 hours a week to 37 hours a week in 200 years, so I expect this will continue. I'll send you my Churchill Club video when it is ready.

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**From:** Hal Varian (b) (6)  
**Sent:** Monday, January 21, 2013 5:18 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non-majors

7 AM body time? I should be able to communicate after a few cups of coffee.  
What metro stop?

On Mon, Jan 21, 2013 at 11:49 AM, Kalil, Thomas A. (b) (6) wrote:

How about 10 am on the 13<sup>th</sup> – is that slightly more civilized?

**From:** Hal Varian [mailto:(b) (6)]  
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---

**From:** Hal Varian (b) (6)  
**Sent:** Monday, January 21, 2013 5:25 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non-majors

That's the same metro as Google, so should be easy. My cell i (b) (6)

On Mon, Jan 21, 2013 at 2:20 PM, Kalil, Thomas A. (b) (6) wrote:

Sounds good. See you at Caribou – 17<sup>th</sup> and Penn. Near Farragut West – 17<sup>th</sup> Street exit.

My cell i (b) (6)

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Monday, January 21, 2013 5:18 PM  
**To:** Kalil, Thomas A.

**Subject:** Re: undergrad statistics resource for non -majors

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<http://www.dartmouth.edu/~chance/index.html>

Hey, Tom, what are your plans. I'm going to be at Google DC, Feb 12-13. Want to come to a group dinner there on Feb 12?

---

**From:** Vint Cerf (b) (6)  
**Sent:** Monday, January 21, 2013 11:29 PM  
**To:** Kalil, Thomas A.; Holdren, John P.  
**Subject:** Possible video or written communication from the President?

John, Tom,

I have become involved as a major sponsor of a two day workshop on innovation and jobs. The principle point is to explore how best to harness innovation to create new businesses and the jobs that go with them. It's a small, invitation-only affair, March 18-19 at SRI International (Curt Carlson is also a steering committee member).

Knowing that innovation is an important theme for the President, I wonder whether it is possible to have a brief letter of encouragement for this group to pursue this work or, even better, a brief video, from the President? I know this is an over-the-top request so I won't be disappointed if it isn't possible.

thanks - hope to cross paths with you when I return from India at end of January. I hope that processing of my appointment to the NSB will happen before the next meeting Feb 20th.

best wishes for the New Year!

vint

---

**From:** Vint Cerf (b) (6)  
**Sent:** Tuesday, January 22, 2013 10:19 AM  
**To:** Kalil, Thomas A.; David Nordfors  
**Cc:** Holdren, John P.; Evans, Bess  
**Subject:** Re: Possible video or written communication from the President?

david nordfors is the co-organizer. I am copying him.

vint

On Tue, Jan 22, 2013 at 9:07 AM, Kalil, Thomas A. (b) (6) wrote:

Dear Vint:

We can try! Is there someone that Bess can work with on the details?

Best,

Tom

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Monday, January 21, 2013 11:29 PM  
**To:** Kalil, Thomas A.; Holdren, John P.  
**Subject:** Possible video or written communication from the President?

John, Tom,

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best wishes for the New Year!

vint

---

**From:** Kathy Cooper (b) (6)  
**Sent:** Wednesday, January 23, 2013 5:12 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X event website

Yikes - sorry about that! Glad you're all set :)

On Wed, Jan 23, 2013 at 2:01 PM, Dorgelo, Cristin (b) (6) wrote:

Hi Kathy:

You managed to get me access to the Solve for X website last week using my (b) (6) Google account, so I think I'm all set.

Best,

Cristin

**From:** Kathy Cooper [mailto:(b) (6)]  
**Sent:** Wednesday, January 23, 2013 12:56 PM  
**To:** Dorgelo, Cristin  
**Subject:** Solve for X event website

Dear Cristin,

I'd like to share the 2013 Solve for X event website with you, but due to the site's privacy settings, the site can only be shared with Google accounts that have been whitelisted.

Do you happen to have a Google account that I could give access to?

Many thanks,  
Kathy

---

**From:** Kathy Cooper (b) (6)  
**Sent:** Wednesday, January 23, 2013 12:56 PM  
**To:** Dorgelo, Cristin  
**Subject:** Solve for X event website

Dear Cristin,

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Do you happen to have a Google account that I could give access to?

Many thanks,  
Kathy

---

**From:** Stebbins, Michael J.  
**Sent:** Wednesday, June 12, 2013 12:59 PM  
**To:** (b) (6)  
**Subject:** Time to talk

Dear Rebecca,  
Do you have a moment to talk today?  
Regards,  
Mike

Michael Stebbins, Ph.D.  
Assistant Director  
White House Office of Science and Technology Policy  
Ph (b) (6)  
<http://www.ostp.gov>

---

**From:** Stebbins, Michael J.  
**Sent:** Wednesday, June 12, 2013 3:02 PM  
**To:** (b) (6)  
**Subject:** Congratulations! Open Science Champion of Change  
**Attachments:** LastName\_FirstName.xls



Dear Ms. Moore,

Congratulations! You have been selected by The White House as an Open Science Champion of Change!

As part of the Champions of Change program, the White House regularly recognizes individuals and groups who are making positive change in their communities. The Open Science Champions event will honor outstanding people, organizations, and research promoting and using open scientific data and publications to accelerate progress and improve our world.

**You were selected because of your tremendous work and leadership, and we hope to honor you at an event at The White House on Thursday, June 20, 2013.** This event will feature you and the other Open Science Champions of Change. You will have the opportunity to talk about your work and the challenges and opportunities you have encountered on a panel. In conjunction with the event, your biography and a blog post will also be featured on the White House website.

**In order to accept your nomination to be a White House Champion of Change, please submit the following information to (b) (6)**

- **By Friday, June 14, 2013:**
  - **Security information** for each of your guests using the attached template. Please note that you can bring up to 5 guests.
  - **Short (3-5 sentences) biography** describing who you are and the work for which you are being honored. For examples please visit: <http://www.whitehouse.gov/champions>.
  - **Headshot** from your shoulders up with as plain of a background as possible. Please do not use a cropped photograph.
  - **Name** as you would like it listed. This is the name we currently have listed for you. Please let us know if you would like to be listed differently:
    - **Rebecca Moore**
- **By Monday, June 17, 2013:**
  - **Blog post** (4-6 paragraphs) about your contributions to Open Science that to be posted on the White House blog. Please note that your blog post may be edited for clarity or brevity. Here is an example: <http://www.whitehouse.gov/blog/2013/05/17/mission-possible-tackling-mobility-safety-and-environmental-concerns-create-safer-co>

**Additional Information:**



**EVENT DETAILS:**

- The event will take place on Thursday, June 20, 2013 from 1:00 -3:00pm EDT in the South Court Auditorium, Eisenhower Executive Office Building (EEOB), The White House. Please plan to arrive at the White House complex no later than 1 hour before the event on June 20 via the Southwest Gate at 17th St NW and State Place NW, across from the Corcoran Gallery. You will need to present valid government -issued photo ID. Foreign nationals, including permanent residents, must bring a passport. Once you have passed through EEOB security, proceed to the South Court Auditorium. Attire is business/business casual.
- You may invite 5 guests to attend this event. As noted above, please submit their security information using the attached spreadsheet by **Friday, June 14**.

**TRAVEL/LODGING:**

- Please note that the White House is not able to cover any of your travel or lodging costs for this event. However, we are happy to help you identify nearby public transportation and lodging options.

**PRESS NOTIFICATIONS:**

- Please do not share news of your nomination with members of the press. You may share this information informally with your friends and family. The White House will issue a press release and a list of all Champions of Change prior to the event. After that release has been issued, we will email you a copy of the release and you may share your news with others in your network.

**CONFERENCE CALL:**

- We will host a conference call on later this week to review logistical information about the event, as well as background on the Champions of Change Program, and answer any questions you may have. If your organization or company has PR or Communications staff interested in helping to promote your trip to DC, please have them join you on the call.

If you have any further questions, please feel free to contact Anjelika Deogirikar directly at

(b) (6) or (b) (6)

Congratulations on being selected as an Open Science Champion of Change!

Sincerely,

The White House Champions of Change program and the White House Office of Science and Technology Policy

Michael Stebbins, Ph.D.

Assistant Director, Biotechnology

White House Office of Science and Technology Policy

Ph (b) (6)

<http://www.ostp.gov>

---

**From:** Stebbins, Michael J.  
**Sent:** Wednesday, June 12, 2013 3:24 PM  
**To:** (b) (6)  
**Subject:** Holdren Memo

[http://www.whitehouse.gov/sites/default/files/microsites/ostp/ostp\\_public\\_access\\_memo\\_2013.pdf](http://www.whitehouse.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf)

Michael Stebbins, Ph.D.  
Assistant Director, Biotechnology  
White House Office of Science and Technology Policy  
Ph (b) (6)  
<http://www.ostp.gov>

---

**From:** Dorgelo, Cristin  
**Sent:** Wednesday, June 12, 2013 7:47 PM  
**To:** 'George Ivanov'  
**Subject:** RE: Google Maker Camp 2013 Hangout Invitation

Hi George:  
Sure, I'd be pleased to participate.  
Can we chat next week?  
Best,  
Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

-----Original Message-----

**From:** George Ivanov (b) (6)  
**Sent:** Wednesday, June 12, 2013 12:03 PM Eastern Standard Time  
**To:** Dorgelo, Cristin  
**Subject:** Google Maker Camp 2013 Hangout Invitation

Hi Cristin,

We wanted to let you know about a program that we will be launching next month to get teens interested and involved in science and technology. Google is offering Maker Camp, a free online summer camp on Google+, which includes six weeks of making, building, experimenting, wrecking, and DIY fun. We'll make 30 awesome projects with the editors at MAKE magazine, go on "virtual field trips" to exciting places, and hear about some inspirational jobs .

Last summer, more than **a million campers** joined Maker Camp to hangout and create projects like rocket cars, glow -in-the-dark candy, homemade electric circuitry, and stop -motion films. Campers went on virtual field trips to the NASA Robotics Lab, Walt Disney Imagineering, National Geographic, CERN, and other cool places via live video hangouts. See that Maker Camp featured in this wrap-up video and write-ups in Wired, Fox News, Engadget and GigaOm.

This summer, we'd like Maker Camp to inspire even more teens. The program will run from July 8th through August 16th. It's free and open to all. We're also signing up libraries, camps, and civic centers to host local Maker Camp activities, giving young people a place to gather and build together .

**We were wondering if you would be interested in being featured as a guest in one of the Maker Camp Hangouts this summer**, to briefly discuss the innovative and unique work that you do at the White House.

Please let me know If this is something that might be of interest and I can set u p a quick call with our internal team to run through logistical questions/concerns.

Sincerely,  
George

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6)

(b) (6)

**From:** Johanna Shelton (b) (6)  
**Sent:** Monday, January 28, 2013 7:57 PM  
**To:** Edelman, R. David  
**Subject:** Re: Self-Driving Cars

let's talk tomorrow - i'm intrigued!

On Mon, Jan 28, 2013 at 6:38 PM, Edelman, R. David (b) (6) wrote:

Hey Johanna,

Here's an off-the-wall one: Who does self-driving cars in your shop? I'd like to have someone on my team work with them to set up a meeting/briefing between our team on the issue and yours. It's someone in which we have a fair amount of interest (which, I swear, pre -dates CES and Davos).

Cheers,

-rD

R. David Edelman

Senior Advisor for Internet Policy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

—

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice

(b) (6)

---

**From:** Sarah Price (b) (6)  
**Sent:** Tuesday, January 29, 2013 3:39 PM  
**To:** Edelman, R. David; hale  
**Subject:** Visit for Thurs/Fri

Hi David,

I want to introduce you to Charlie Hale. Charlie works on public policy for Glass and self-driving cars, and would love to meet when you are in town. He's copied on this email, and you can also call him a (b) (6)

Best,  
Sarah

---

**From:** Charlie Hale (b) (6)  
**Sent:** Tuesday, January 29, 2013 4:46 PM  
**To:** Sarah Price  
**Cc:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Hey David!

I'd love to get together when you're in town. Feel free to give me a call whenever you have a minute.

Take care,  
-Charlie

On Tue, Jan 29, 2013 at 12:38 PM, Sarah Price (b) (6) wrote:  
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Best,  
Sarah

--  
Charlie Hale | Google Public Policy (b) (6)



**From:** Charlie Hale (b) (6)  
**Sent:** Tuesday, January 29, 2013 7:17 PM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sounds great!

Would you like to meet in the Google SF office and we can video conference with anyone from the chauffeur team, or meet in Mountain View?

-Charlie

On Tue, Jan 29, 2013 at 4:09 PM, Edelman, R. David (b) (6) wrote:

Thanks, Sarah!

Charlie, great to chat earlier. One note per our prior discussion: it's looking like morning/pre -lunch on Friday is preferable to afternoon, if possible.

Cheers,

-David

<><><><><><><><><>

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

---

**From:** Charlie Hale (b) (6)  
**Sent:** Tuesday, January 29, 2013 7:52 PM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sure! Mountain View on Friday morning works well. I emailed the team so I'll get back to you as soon as I have some times nailed down.

On Tue, Jan 29, 2013 at 4:18 PM, Edelman, R. David (b) (6) wrote:

I'll actually already be down south that morning/afternoon, so MV is probably best, no?

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
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Senior Advisor for Internet, Innovation, and Privacy | The White House

**From:** Sarah Price [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 3:39 PM  
**To:** Edelman, R. David; hale  
**Subject:** Visit for Thurs/Fri

I want to introduce you to Charlie Hale. Charlie works on public policy for Glass and self-driving cars, and would love to meet when you are in town. He's copied on this email, and you can also call him at (b) (6)

Sarah

Charlie Hale | Google Public Policy (b) (6)



---

**From:** Stebbins, Michael J.  
**Sent:** Friday, June 14, 2013 11:13 AM  
**To:** 'Rebecca Moore'  
**Subject:** RE: Congratulations! Open Science Champion of Change

Hi Rebecca,  
How are you doing on a potential announceable at the event?  
Best,  
Mike

**From:** Rebecca Moore [mailto: (b) (6)]  
**Sent:** Thursday, June 13, 2013 1:48 AM  
**To:** Stebbins, Michael J.  
**Subject:** Re: Congratulations! Open Science Champion of Change

Thanks very much Michael!

More soon,

Rebecca

--  
Rebecca Moore | [Google Earth Engine](#) & [Earth Outreach](#) (b) (6) | Google

On Wed, Jun 12, 2013 at 12:02 PM, Stebbins, Michael J. (b) (6) wrote:



Dear Ms. Moore,

Congratulations! You have been selected by The White House as an Open Science Champion of Change!

As part of the [Champions of Change](#) program, the White House regularly recognizes individuals and groups who are making positive change in their communities. The [Open Science](#) Champions event will honor

outstanding people, organizations, and research promoting and using open scientific data and publications to accelerate progress and improve our world.

**You were selected because of your tremendous work and leadership, and we hope to honor you at an event at The White House on Thursday, June 20, 2013.** This event will feature you and the other Open Science Champions of Change. You will have the opportunity to talk about your work and the challenges and opportunities you have encountered on a panel. In conjunction with the event, your biography and a blog post will also be featured on the White House website.

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- **Security information** for each of your guests using the attached template. Please note that you can bring up to 5 guests.
- **Short (3-5 sentences) biography** describing who you are and the work for which you are being honored. For examples please visit: <http://www.whitehouse.gov/champions>.
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- **Name** as you would like it listed. This is the name we currently have listed for you. Please let us know if you would like to be listed differently:

- **Rebecca Moore**

- **By Monday, June 17, 2013:**

- **Blog post** (4-6 paragraphs) about your contributions to Open Science that to be posted on the White House blog. Please note that your blog post may be edited for clarity or brevity. Here is an example: <http://www.whitehouse.gov/blog/2013/05/17/mission-possible-tackling-mobility-safety-and-environmental-concerns-create-safer-co>

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If you have any further questions, please feel free to contact Anjelika Deogirakar directly at (b) (6) or (b) (6)

Congratulations on being selected as an Open Science Champion of Change!

Sincerely,

The White House Champions of Change program and the White House Office of Science and Technology Policy



Michael Stebbins, Ph.D.

Assistant Director, Biotechnology

White House Office of Science and Technology Policy

Ph (b) (6)

<http://www.ostp.gov>

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**From:** Charlie Hale (b) (6)  
**Sent:** Wednesday, January 30, 2013 11:15 AM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Hi David,

I heard back from a few of the team leads and we'd love to have you down on Friday morning. Would you be interested in getting a demo in the car? We'd be happy to take you out for a ride if you have time.

Also what time works best for you? I was thinking we could meet with some folks at 10:00, talk for about 30 minutes and then get a demo around 10:30. What do you think?

Looking forward to it!  
-Charlie

On Tue, Jan 29, 2013 at 4:53 PM, Edelman, R. David (b) (6) wrote:

Fantastic, thanks, Charlie!

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 7:52 PM

**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sure! Mountain View on Friday morning works well. I emailed the team so I'll get back to you as soon as I have some times nailed down.

On Tue, Jan 29, 2013 at 4:18 PM, Edelman, R. David (b) (6) wrote:

I'll actually already be down south that morning/afternoon, so MV is probably best, no?

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 7:17 PM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sounds great!

Would you like to meet in the Google SF office and we can video conference with anyone from the chauffeur team, or meet in Mountain View?

-Charlie

On Tue, Jan 29, 2013 at 4:09 PM, Edelman, R. David (b) (6) wrote:

Thanks, Sarah!

Charlie, great to chat earlier. One note per our prior discussion: it's looking like morning/pre -lunch on Friday is preferable to afternoon, if possible.

Cheers,

-David

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R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

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Best,

Sarah

--

Charlie Hale | Google Public Policy (b) (6)

--

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--

Charlie Hale | Google Public Policy (b) (6)

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**From:** Stebbins, Michael J.  
**Sent:** Friday, June 14, 2013 1:13 PM  
**To:** 'Rebecca Moore'  
**Subject:** RE: Congratulations! Open Science Champion of Change

Great! Todd is also an AMAZING speaker.

**From:** Rebecca Moore [mailto: (b) (6)]  
**Sent:** Friday, June 14, 2013 1:07 PM  
**To:** Stebbins, Michael J.  
**Subject:** RE: Congratulations! Open Science Champion of Change

Hey Michael, working on it. Potentially some ideas later today. Glad to hear that Holdren will be opening the event.

On Jun 14, 2013 8:12 AM, "Stebbins, Michael J." (b) (6) wrote:

Hi Rebecca,

How are you doing on a potential announceable at the event?

Best,

Mike

**From:** Rebecca Moore [mailto: (b) (6)]  
**Sent:** Thursday, June 13, 2013 1:48 AM  
**To:** Stebbins, Michael J.  
**Subject:** Re: Congratulations! Open Science Champion of Change

Thanks very much Michael!

More soon,

Rebecca

On Wed, Jun 12, 2013 at 12:02 PM, Stebbins, Michael J. (b) (6) wrote:



Dear Ms. Moore,

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Michael Stebbins, Ph.D.

Assistant Director, Biotechnology

White House Office of Science and Technology Policy

Ph (b) (6)

<http://www.ostp.gov>



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**From:** Stebbins, Michael J.  
**Sent:** Friday, June 14, 2013 3:47 PM  
**To:** 'Rebecca Moore'; Deogirikar, Anjelika (Intern)  
**Cc:** George Ivanov; Nate Tyler  
**Subject:** RE: Congratulations! Open Science Champion of Change

Absolutely. Thanks!

George and Nate,  
Would you like to come to the event and reception?

Regards.  
Mike

**From:** Rebecca Moore [mailto: (b) (6)]  
**Sent:** Friday, June 14, 2013 3:41 PM  
**To:** Stebbins, Michael J.; Deogirikar, Anjelika (Intern)  
**Cc:** George Ivanov; Nate Tyler  
**Subject:** Re: Congratulations! Open Science Champion of Change

Dear Michael and Anjelika,  
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So would you please use them as your points of contact on this, including sending them the embargo'd press release etc when that is ready next week? Also it would be helpful if you included them on all communication that you'll be sending me over the next week, related to this event.

Thanks very much,

Rebecca

--

Rebecca Moore | [Google Earth Engine](#) & [Earth Outreach](#) (b) (6) | Google

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Policy

Michael Stebbins, Ph.D.

Assistant Director, Biotechnology

White House Office of Science and Technology Policy

Ph (b) (6)

<http://www.ostp.gov>

---

**From:** Stebbins, Michael J.  
**Sent:** Friday, June 14, 2013 3:57 PM  
**To:** 'George Ivanov'  
**Cc:** Rebecca Moore; Deogirikar, Anjelika (Intern); Nate Tyler; Michele Weslander-Quaid  
**Subject:** RE: Congratulations! Open Science Champion of Change

Excellent! See you there.

**From:** George Ivanov [mailto: (b) (6)]  
**Sent:** Friday, June 14, 2013 3:57 PM  
**To:** Stebbins, Michael J.  
**Cc:** Rebecca Moore; Deogirikar, Anjelika (Intern); Nate Tyler; Michele Weslander -Quaid  
**Subject:** Re: Congratulations! Open Science Champion of Change

Hello Michael,

I will be joining Rebecca at the event next week along with several other attendees (full clearance info attached). Thank you for your help.

Sincerely,  
George

On Fri, Jun 14, 2013 at 3:47 PM, Stebbins, Michael J. (b) (6) wrote:

Absolutely. Thanks!

George and Nate,

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Regards.

Mike

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White House Office of Science and Technology Policy

Ph (b) (6)

<http://www.ostp.gov>

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

---

**From:** Edelman, R. David  
**Sent:** Monday, June 17, 2013 8:30 AM  
**To:** Johanna Shelton  
**Subject:** RE: transparency reports

Thanks

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Saturday, June 15, 2013 7:54 AM  
**To:** Edelman, R. David  
**Subject:** transparency reports

our latest public comment - let me know if you have any questions

"We have always believed that it's important to differentiate between different types of government requests. We already publish criminal requests separately from National Security Letters. Lumping the two categories together would be a step back for users. Our request to the government is clear: to be able to publish aggregate numbers of national security requests, including FISA disclosures, separately."

and some coverage -

**NY Times:** Google Calls U.S. Data Request Disclosures a Step Backward for Users

**The Verge:** Google opts out of FISA disclosure deal made by Facebook and Microsoft, calls it 'a step back for users;'  
Twitter agrees

**WSJ:** Facebook, Microsoft Disclose Government Data Requests, But Google Balks

**All Things D:** Twitter Backs Google, Says Facebook Made Mistake In Data Disclosure Deal With Feds

**Engadget:** Google, Twitter push to reveal number of secret FISA requests separately

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

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**From:** Stebbins, Michael J.  
**Sent:** Monday, June 17, 2013 11:16 AM  
**To:** 'Rebecca Moore'  
**Subject:** RE: Congratulations! Open Science Champion of Change

Hi Rebecca,  
Do you think you'll have some thing to announce?...even if it is the "intention." to do something without details, that's totally fine for this type of event. I am happy to chat if you like.  
Thanks,  
Mike

Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

**From:** Rebecca Moore (b) (6)  
**Sent:** Friday, June 14, 2013 10:37 PM Eastern Standard Time  
**To:** Deogirikar, Anjelika (Intern)  
**Cc:** Nate Tyler; George Ivanov; Stebbins, Michael J.  
**Subject:** Re: Congratulations! Open Science Champion of Change

All,  
Here is the info you requested. Headshot is attached.

Name: Rebecca Moore

Bio:

Rebecca Moore is an Engineering Manager at Google, where she initiated and leads the development of Google Earth Engine, a new technology platform that puts an unprecedented amount of satellite imagery online for the first time and enables scientists to conduct global -scale monitoring and measurement of changes in the earth's environment. Rebecca also conceived and leads the Google Earth Outreach program, which supports nonprofits, communities and indigenous peoples around the world in applying Google's mapping tools to the world's pressing problems in areas such as environmental conservation, human rights and cultural preservation. Rebecca received a bachelor's degree with honors from Brown University in Artificial Intelligence and a master's degree from Stanford University. Her personal work using Google Earth was instrumental in stopping the logging of more than a thousand acres of redwoods in her Santa Cruz Mountain community .

-----

If this is too long, feel free to drop the last sentence ("Her per sonal work...") That work establishes my "street cred" when we meet with environmental nonprofits, but is less essential in the context of Open Science. ;-)

best regards,

Rebecca

--  
Rebecca Moore | Google Earth Engine & Earth Outreach (b) (6) | Google

On Fri, Jun 14, 2013 at 6:02 PM, Deogirakar, Anjelika (Intern) (b) (6) wrote:

Hello Rebecca,

I look forward to welcoming you and your colleagues here next week!

I just wanted to follow-up with you on the other items we are hoping you might be able to share with us today. I look forward to hearing back from you on these items.

- **Short (3-5 sentences) biography** describing who you are and the work for which you are being honored. For examples please visit: <http://www.whitehouse.gov/champions/crowdfunding>
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- **Rebecca Moore**

In the meantime, please do not hesitate to reach out to me with any additional questions!

Thank you,

Anjelika

**From:** Rebecca Moore [mailto:(b) (6)]  
**Sent:** Friday, June 14, 2013 3:41 PM  
**To:** Stebbins, Michael J.; Deogirakar, Anjelika (Intern)  
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As part of the Champions of Change program, the White House regularly recognizes individuals and groups who are making positive change in their communities. The Open Science Champions event will honor

outstanding people, organizations, and research promoting and using open scientific data and publications to accelerate progress and improve our world.

**You were selected because of your tremendous work and leadership, and we hope to honor you at an event at The White House on Thursday, June 20, 2013.** This event will feature you and the other Open Science Champions of Change. You will have the opportunity to talk about your work and the challenges and opportunities you have encountered on a panel. In conjunction with the event, your biography and a blog post will also be featured on the White House website.

**In order to accept your nomination to be a White House Champion of Change, please submit the following information to (b) (6)**

- **By Friday, June 14, 2013:**

- **Security information** for each of your guests using the attached template. Please note that you can bring up to 5 guests.
- **Short (3-5 sentences) biography** describing who you are and the work for which you are being honored. For examples please visit: <http://www.whitehouse.gov/champions>.
- **Headshot** from your shoulders up with as plain of a background as possible. Please do not use a cropped photograph.
- **Name** as you would like it listed. This is the name we currently have listed for you. Please let us know if you would like to be listed differently :

- **Rebecca Moore**

- **By Monday, June 17, 2013:**

- **Blog post** (4-6 paragraphs) about your contributions to Open Science that to be posted on the White House blog. Please note that your blog post may be edited for clarity or brevity. Here is an example: <http://www.whitehouse.gov/blog/2013/05/17/mission-possible-tackling-mobility-safety-and-environmental-concerns-create-safer-co>

**Additional Information:**

**EVENT DETAILS:**

- **The event will take place on Thursday, June 20, 2013 from 1:00 -3:00pm EDT in the South Court Auditorium, Eisenhower Executive Office Building (EEOB), The White House.** Please plan to arrive at the White House complex no later than 1 hour before the event on June 20 via the Southwest

Gate at 17th St NW and State Place NW, across from the Corcoran Gallery. You will need to present valid government-issued photo ID. Foreign nationals, including permanent residents, must bring a passport. Once you have passed through EEOB security, proceed to the South Court Auditorium. Attire is business/business casual.

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If you have any further questions, please feel free to contact Anjelika Deogirikar directly at

(b) (6) or (b) (6)

Congratulations on being selected as an Open Science Champion of Change!

Sincerely,

The White House Champions of Change program and the White House Office of Science and Technology Policy

Michael Stebbins, Ph.D.

Assistant Director, Biotechnology

White House Office of Science and Technology Policy

Ph (b) (6)

<http://www.ostp.gov>



---

**From:** Johanna Shelton (b) (6)  
**Sent:** Wednesday, January 30, 2013 5:04 PM  
**To:** Edelman, R. David  
**Subject:** Fwd: Google Germany requests  
**Attachments:** Biden Germany visit info.pdf

As the attached one-pager explains, US Internet companies are having some issues with Germany that we believe VP Biden should be aware of.

Among the issues:

- Ancillary copyright expansion - see background [here](#) and press stories [here](#) and [here](#). Note that newspapers have been in a steady 25-year decline which the Internet didn't really change. And Google sends 4 billion clicks a month to news sites which we hope they can innovate with and monetize.

- Privacy regulations - we continue to face issues in Germany that we don't face elsewhere, and are challenged by the existence of 17 privacy DPAs - see article [here](#)

We would appreciate any mention the VP can make of the particular regulatory issues facing the US Internet industry. we're also happy to do any calls or meetings for more background.

Many thanks

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

## Re Vice President Biden's upcoming visit to Germany

### Chancellor Merkel's approach to tech:

Chancellor Merkel holds a PhD in Physics and is genuinely enthusiastic when it comes to science and technology. For example, she initiated a yearly IT-Summit back in 2005 as a top-level gathering of policy-makers and industry, and launched a forward-looking ICT strategy in November 2010. Most recently, she has shown great interest in the growing start-up scene in Berlin and has invited a group of entrepreneurs to her office to see how the government can further support start-up innovators.

### Environment for the tech industry in Germany:

Although the German government prides itself in supporting the ICT sector, this is not followed through in terms of the policies actually applied. She would be open to understanding the US experiences in how the Internet drives economic growth and how policy-makers can best support a successful start-up culture, particularly removing regulatory hurdles for online services.

### Embracing the potential of the ICT Industry in Germany:

Encourage the Chancellor to further push for a positive view and acceptance of the Internet yet carefully point to existing deficiencies to highlight the room for improvement.

By many metrics, Germany is falling behind in the Internet race. According to a recent study by the Boston Consulting Group, the web only accounted for three percent of German GDP last year and BCG expects it to reach only 4 percent by 2016 - a figure that would put powerful Germany behind Mexico. Also in a recent Web Index - a world wide measure of the Web's growth, utility and impact on people and nations - Germany came in on rank 16 of 61 countries. Regarding Internet policy, the Germans ranked only 23rd place. With great universities, adequate capital available, the policy agenda to address this needs to focus on micro regulatory issues, in particular privacy and balanced copyright, to avoid leading global players, start-ups and investors to look elsewhere.

### Examples of regulatory initiatives with a potential to hinder Internet-driven growth in Germany:

- **Copyright:** The promise to modernize the copyright regime has been reduced to a debate about the Ancillary Copyright (Leistungsschutzrecht), a special new provision designed supposedly to help newspapers but that will in practice interfere with all normal expectations of users and innovators in Germany. This is a major concern of US Internet companies, who may be forced to alter their business models or avoid providing certain services in Germany.
- **EU Data Protection Regulation:** The German Interior Ministry plays an important role in the discussion on how to modernize and adapt **privacy regulation** in the Internet age. 3 key points that are essential to the Internet industry:
  - Opportunity to harmonize the oversight of **Data Protection Authorities** with the one-stop-shop principle seems especially apt when thinking about the difficult environment in Germany that tech companies need to adapt to with 17 different DPAs.
  - Recognizing a **subset category of personal data** would maintain legal protection while giving data controllers and data subjects more certainty about their rights and obligations.
  - The rules on **consent** raise the burdens in a disproportionate way and would increase the amount of information collected and erode citizen confidence.

---

**From:** Dorgelo, Cristin  
**Sent:** Monday, June 17, 2013 8:44 PM  
**To:** (b) (6)  
**Subject:** Accepted: Invitation: White House/Google Maker Camp Sync @ Wed Jun 19, 2013  
1:30pm - 1:55pm (b) (6)

---

**From:** Dorgelo, Cristin  
**Sent:** Monday, June 17, 2013 2:52 PM  
**To:** George Ivanov; Lorraine Yurshansky; Tom Critchlow  
**Subject:** RE: Google Maker Camp 2013 Hangout Invitation

How about talking at 1:30 PM EDT on Wednesday?

Best,  
Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Friday, June 14, 2013 9:35 AM  
**To:** Dorgelo, Cristin; Lorraine Yurshansky; Tom Critchlow  
**Subject:** Re: Google Maker Camp 2013 Hangout Invitation

+Lorraine, Tom

Hi Cristin,

That sounds great. Would you have some time for a quick call next Monday (1:00, 1:30, 2:30, 4:00 or 4:30)?

Sincerely,  
George

On Wed, Jun 12, 2013 at 7:46 PM, Dorgelo, Cristin (b) (6) wrote:

Hi George:

Sure, I'd be pleased to participate.

Can we chat next week?

Best,  
Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

-----Original Message-----

**From:** George Ivanov (b) (6)  
**Sent:** Wednesday, June 12, 2013 12:03 PM Eastern Standard Time  
**To:** Dorgelo, Cristin  
**Subject:** Google Maker Camp 2013 Hangout Invitation

Hi Cristin,

We wanted to let you know about a program that we will be launching next month to get teens interested and involved in science and technology. Google is offering Maker Camp, a free online summer camp on Google+, which includes six weeks of making, building, experimenting, wrecking, and DIY fun. We'll make 30 awesome projects with the editors at MAKE magazine, go on "virtual field trips" to exciting places, and hear about some inspirational jobs.

Last summer, more than **a million campers** joined Maker Camp to hangout and create projects like rocket cars, glow -in-the-dark candy, homemade electric circuitry, and stop -motion films. Campers went on virtual field trips to the NASA Robotics Lab, Walt Disney Imagineering, National Geographic, CERN, and other cool places via live video hangouts. See that Maker Camp featured in this wrap-up video and write-ups in Wired, Fox News, Engadget and GigaOm.

This summer, we'd like Maker Camp to inspire even more teens. The program will run from July 8th through August 16th. It's free and open to all. We're also signing up libraries, camps, and civic centers to host local Maker Camp activities, giving young people a place to gather and build together.

**We were wondering if you would be interested in being featured as a guest in one of the Maker Camp Hangouts this summer**, to briefly discuss the innovative and unique work that you do at the White House.

Please let me know If this is something that might be of interest and I can set up a quick call with our internal team to run through logistical questions/concerns.

Sincerely,  
George

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

---

**From:** Stebbins, Michael J.  
**Sent:** Tuesday, June 18, 2013 10:33 AM  
**To:** (b) (6)  
**Subject:** RE: Congratulations! Open Science Champion of Change

any news? We need to nail down announcements ASAP.

Sent with Good (www.good.com)

-----Original Message-----

**From:** Rebecca Moore (b) (6)  
**Sent:** Monday, June 17, 2013 01:25 PM Eastern Standard Time  
**To:** George Ivanov  
**Cc:** Stebbins, Michael J.; Deogirakar, Anjelika (Intern); Nate Tyler; Michele Weslander -Quaid  
**Subject:** Re: Congratulations! Open Science Champion of Change

Hi all, I have one more guest to fill out our complement of five - my cousin, Maria Hodermarsky, on the faculty at NYU. I've updated the spreadsheet with her security info, please see attached.

I hope this is still possible - would you please confirm - thanks.  
best,

Rebecca

--  
Rebecca Moore | [Google Earth Engine](#) & [Earth Outreach](#) (b) (6) | Google

On Fri, Jun 14, 2013 at 12:56 PM, George Ivanov (b) (6) wrote:  
Hello Michael,

I will be joining Rebecca at the event next week along with several other attendees (full clearance info attached). Thank you for your help.

Sincerely,  
George

On Fri, Jun 14, 2013 at 3:47 PM, Stebbins, Michael J. (b) (6) wrote:

Absolutely. Thanks!

George and Nate,

Would you like to come to the event and reception?

Regards.

Mike

**From:** Rebecca Moore [mailto:(b) (6)]  
**Sent:** Friday, June 14, 2013 3:41 PM  
**To:** Stebbins, Michael J.; Deogirikar, Anjelika (Intern)  
**Cc:** George Ivanov; Nate Tyler

**Subject:** Re: Congratulations! Open Science Champion of Change

Dear Michael and Anjelika,

Thanks again for this award - a great honor. I wanted to connect you to George Ivanov and Nate Tyler of Google - George is on our public policy team in DC (I believe you know him, Michael) and Nate Tyler heads up our PR for all-things-Geo at Google. They will be handling everything related to the P R and cross-promotion of this announcement/event that you mentioned on this morning's call.

So would you please use them as your points of contact on this, including sending them the embargo'd press release etc when that is ready next week? Also it would be helpful if you included them on all communication that you'll be sending me over the next week, related to this event.

Thanks very much,

Rebecca

--

Rebecca Moore | Google Earth Engine & Earth Outreach (b) (6) | Google



Dear Ms. Moore,

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▪ **Rebecca Moore**

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If you have any further questions, please feel free to contact Anj elika Deogirikar directly at (b) (6) o (b) (6)

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Michael Stebbins, Ph.D.

Assistant Director, Biotechnology

White House Office of Science and Technology Policy

Ph (b) (6)

<http://www.ostp.gov>

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6)

(b) (6)

---

**From:** Charlie Hale (b) (6)  
**Sent:** Thursday, January 31, 2013 6:09 PM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Great. I'm at 1875 Charleston Ave and the lobby is in the back of the building where the parking lot is located. We can grab coffee, walk across campus and meet the rest of the team at 10.

On Thu, Jan 31, 2013 at 3:00 PM, Edelman, R. David (b) (6) wrote:  
Sure, why not? Let's do 9:30. Give me the address and building number, and I'll see you in the lobby.

-----Original Message-----

**From:** Charlie Hale (b) (6)  
**Sent:** Thursday, January 31, 2013 01:22 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Great! If you'd like to come at 9:15-9:30 then you and I can grab coffee or I can show you around campus a bit, and then we can head to the building where we'll be meeting with the team.

Sound good?

On Wed, Jan 30, 2013 at 10:47 AM, Edelman, R. David (b) (6) wrote:

Charlie,

That's fantastic, thank you. Actually, yes, I would – if I'm going to be writing policy on the technology, makes sense to see it in action. 10 and 10:30am is fine, and could even do a bit earlier (9:30 or 9:45) if there is appetite to go a bit more in-depth, as I certainly would be interested.

Let me know the coordinates and who might be joining, and looking forward to it.

Cheers,

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Wednesday, January 30, 2013 11:15 AM

**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Hi David,

I heard back from a few of the team leads and we'd love to have you down on Friday morning. Would you be interested in getting a demo in the car? We'd be happy to take you out for a ride if you have time.

Also what time works best for you? I was thinking we could meet with some folks at 10:00, talk for about 30 minutes and then get a demo around 10:30. What do you think?

Looking forward to it!  
-Charlie

On Tue, Jan 29, 2013 at 4:53 PM, Edelman, R. David (b) (6) wrote:

Fantastic, thanks, Charlie!

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 7:52 PM

**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sure! Mountain View on Friday morning works well. I emailed the team so I'll get back to you as soon as I have some times nailed down.

On Tue, Jan 29, 2013 at 4:18 PM, Edelman, R. David (b) (6) wrote:

I'll actually already be down south that morning/afternoon, so MV is probably best, no?

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 7:17 PM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sounds great!

Would you like to meet in the Google SF office and we can video conference with anyone from the chauffeur team, or meet in Mountain View?

-Charlie

On Tue, Jan 29, 2013 at 4:09 PM, Edelman, R. David (b) (6) wrote:

Thanks, Sarah!

Charlie, great to chat earlier. One note per our prior discussion: it's looking like morning/pre-lunch on Friday is preferable to afternoon, if possible.

Cheers,

-David

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R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** Sarah Price [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 3:39 PM  
**To:** Edelman, R. David; hale  
**Subject:** Visit for Thurs/Fri

Hi David,

I want to introduce you to Charlie Hale. Charlie works on public policy for Glass and self-driving cars, and would love to meet when you are in town. He's copied on this email, and you can also call him at (b) (6)

Best,

Sarah

--

Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

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Cheers,

-David

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**R. David Edelman**

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

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**Sent:** Tuesday, January 29, 2013 3:39 PM  
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Best,

Sarah

--  
Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

--  
Charlie Hale | Google Public Policy (b) (6)

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**From:** David Estrada (b) (6)  
**Sent:** Friday, February 01, 2013 1:41 PM  
**To:** Edelman, R. David  
**Subject:** my contact info

Hi David. I was just in the meeting with you about the Chauffeur program. Great meeting you. Feel free to reach out to me directly anytime.

mobile (b) (6)

David

--

---

David Estrada | Google[x] Legal Director (b) (6)

**PRIVILEGE AND CONFIDENTIALITY NOTICE:**

This message may contain privileged and confidential information. If you have received this message in error, please notify the sender by return email and then delete the message. Please do not copy or disclose the contents of this message. Thank you.

---

**From:** David Estrada (b) (6)  
**Sent:** Monday, February 04, 2013 11:44 AM  
**To:** Edelman, R. David  
**Subject:** RE: my contact info

Sounds good, David. We'll coordinate internally and set something up with you.

On Feb 4, 2013 7:45 AM, "Edelman, R. David" (b) (6) wrote:

David,

Thanks so much for taking the time on Friday – it was great meeting you, and appreciated your insights into how we can work towards this vision. I'll definitely want to keep my team in regular touch on this; please let me know the next time you or the team will be in D.C., I'd love to have you come in and speak with my group. We may even want to convene a conference call in the nearer future.

Cheers,

-rD

**From:** David Estrada [mailto:(b) (6)]  
**Sent:** Friday, February 01, 2013 1:41 PM  
**To:** Edelman, R. David  
**Subject:** my contact info

Hi David. I was just in the meeting with you about the Chauffeur program. Great meeting you. Feel free to reach out to me directly anytime.

mobile (b) (6)

David

--

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David Estrada | Google[x] Legal Director (b) (6)

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---

**From:** George Ivanov (b) (6)  
**Sent:** Wednesday, February 06, 2013 10:34 AM  
**To:** Edelman, R. David  
**Subject:** Catching Up

Hi David,

Do you have some time for a quick call tomorrow or on Friday?

Sincerely,  
George

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)



**From:** George Ivanov (b) (6)  
**Sent:** Wednesday, February 06, 2013 11:15 AM  
**To:** Edelman, R. David  
**Subject:** Re: Catching Up

How does 02/20 look on your calendar for M.E. Swing Coffee House (1702 G)?

Sincerely,  
George

On Wed, Feb 6, 2013 at 10:34 AM, Edelman, R. David (b) (6) wrote:

Sure, actually, now's good as I'm about to go in meetings for the next several hours. Give me a ring.

[illegible]

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

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--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6)

(b) (6)

--

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Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6)

(b) (6)

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**From:** Dorgelo, Cristin  
**Sent:** Thursday, June 20, 2013 10:01 AM  
**To:** Kyle Monson; George Ivanov; Lorraine Yurshansky; Tom Critchlow  
**Subject:** RE: Maker Camp Hangout in July  
**Attachments:** Event Information Form.pdf

Thanks! I'll bounce this off of our digital strategy & NASA comms teams here.  
I've attached the form I'll need completed & returned to me.  
We have an initial preference for 7/15, BTW, due to some communications activities later in the week.

Cristin

**From:** Kyle Monson [mailto:(b) (6)]  
**Sent:** Wednesday, June 19, 2013 5:28 PM  
**To:** Dorgelo, Cristin; George Ivanov; Lorraine Yurshansky; Tom Critchlow  
**Subject:** Maker Camp Hangout in July

Hi Cristin, based on our conversation today, here's our re commendation for the Maker Camp Hangout in July.  
Very excited about this opportunity!

### **The Asteroid Challenge: Calling All Young Makers**

*A 45-minute Hangout with Cristin Dorgelo during Maker Camp's "Create the Future" week.*

July 15th or 17th, early afternoon (ideally 2pm Eastern)

#### **Basic Idea:**

Cristin explains the Asteroid Challenge to a live audience of young Maker Campers, with a show -and- tell session where she shows off a chunk of asteroid and some NASA hardware. Could also include video footage or teaser video for Asteroid Challenge or Grand Challenges. Make will supply an interested group of participants for the Hangout, along with any Cristin's team might suggest.

Cristin also shares info about the Grand Challenges program, her own background, and how makers can get involved in big ideas.

Ideally, Cristin also has a simple, space -related project to build with the kids, so she's doing something with her hands while chatting. We'll come up with some possibilities.

We'll also tease the "Field Trip Friday" to NASA Ames "SpaceShop" later that week.

#### **Teaser Campaign**

Kicks off a few days in advance:

We'll challenge the campers to post their own asteroid ideas to Maker Camp's Google+ Community...could be photos, illustrations, GIFs, videos. The best /most popular ideas will get shared with Cristin on the Hangout.

--

Kyle Monson	Creative Lab	(b) (6)		(b) (6)
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EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF SCIENCE AND TECHNOLOGY POLICY  
WASHINGTON, D.C. 20502

## EVENT INFORMATION

**Instructions:**

**Event Sponsor: Please provide the information requested and return to the staff member for processing.**

**1. Sponsor Organization(s):**

**2. The sponsor is:**

- ☐ A 501(c)(3) non-profit organization (please include proof of status in reply message such as link to website)  
☐ A registered lobbying organization  
☐ Associated with a foreign government  
☐ An association with a multi-national organization  
☐ Other (explain)

**3. Expected number of attendees:**

**4. What type of organizations (i.e. government, non-profit, academia, etc.) and attendees (i.e. staffers, CEO, General Officer/SES, etc.) will be present at meeting?**

**5. Is the event a fundraiser?** ☐ Yes / ☐ No

**6. Is this event open to the press?** ☐ Yes / ☐ No

*If yes, answer:*

**a. Which media outlets have been invited?**

**b. Please list the name and email address /phone # for the event's public affairs contact:**

**7. Will the event be recorded or webcast?** ☐ Yes / ☐ No

**8. Will presentation materials be publicly distributed?** ☐ Yes / ☐ No  
*(i.e., power point slides will be posted online, etc.)*

**9. Have you invited any other OSTP staff member to the event?** ☐ Yes / ☐ No  
*If yes, please list their names and titles:*

**10. What is the event fee for all attendees?**

- ☐ The event fee is \$   
☐ The event is free for all attendees  
☐ The event is free for all speakers  
☐ The event is free for all government attendees  
☐ Other

**Person completing this form**

**Name:**

**Title & Organization:**

**Submit Form**

**Clear Form**

---

**From:** Stebbins, Michael J.  
**Sent:** Friday, June 21, 2013 5:41 PM  
**To:** (b) (6) (b) (6)  
(b) (6) (b) (6) (b) (6)  
(b) (6) (b) (6) (b) (6)  
(b) (6) (b) (6) (b) (6)  
(b) (6) (b) (6)  
**Cc:** Deogirikar, Anjelika (Intern)  
**Subject:** RE: Thank you!!

All,

I would like to further express our sincere thanks to you all for being so amazing yesterday and for the incredible work that you are doing to open science every day. We sincerely hope you will keep in touch with us and let us know how we might be able to work together in the future.

Kind Regards,  
Mike

---

**From:** Deogirikar, Anjelika (Intern)  
**Sent:** Friday, June 21, 2013 5:20 PM  
**Cc:** Deogirikar, Anjelika (Intern); Stebbins, Michael J.  
**Subject:** Thank you!!

Dear Open Science Champions of Change,  
Thank you so much for coming yesterday to the White House! I really enjoyed meeting all of you, your families, your friends and colleagues who came out to support you for this honor.

I wanted to share with you that we have just published a [blog post](#) of the amazing day – and it includes a [factsheet](#) to the incredible announcements that several of you made yesterday too!

Thank you for being awesome and for extraordinary impact you are making in the world! As Todd Park said – “may the force of open science be with you!”

I'll be in touch with you to let you know when your blog posts are up and when the video of the event is available on YouTube!

Thank you,  
Anjelika

Useful links:

- [OSTP Blog post of the event](#)
- [Fact Sheet](#)
- [Press release](#)
- [Champions short bios](#)

---

**From:** Stebbins, Michael J.  
**Sent:** Monday, June 24, 2013 1:34 PM  
**To:** 'Rebecca Moore'  
**Cc:** Allison Lieber  
**Subject:** RE: need photo of me presenting

I see your problem. Let me see what I can do in the next two hours.  
Thanks,  
M

**From:** Rebecca Moore [mailto:(b) (6)]  
**Sent:** Monday, June 24, 2013 1:32 PM  
**To:** Stebbins, Michael J.  
**Cc:** Allison Lieber  
**Subject:** need photo of me presenting

Michael - the format on google internal page is portrait - i.e. vertical. attached is the lowres screengrab we are currently using.



can you give us high-res image like this asap? thanks!

Rebecca

--

Rebecca Moore | Google Earth Engine & Earth Outreach (b) (6) | Google

----- Forwarded message -----

**From:** Rachel Durfee (b) (6)

Date: Mon, Jun 24, 2013 at 9:54 AM

Subject: Re: Folder of Photos from Today

To: Matthew Lockwood (b) (6)

Cc: Rebecca Moore (b) (6) Allison Lieber (b) (6) George Ivanov (b) (6)

This is up! I think we could use a sharper photo -- can somebody send?

Let me know if you need any other changes made.

Best,  
Rachel

On Sun, Jun 23, 2013 at 7:35 PM, Matthew Lockwood (b) (6) wrote:

- others

+ rachel

we'll get this up first thing tomorrow -- we have a good pic and will link to your blog

CONGRATS!!!!

On Sat, Jun 22, 2013 at 7:33 PM, Rebecca Moore (b) (6) wrote:

Can I get write access to this folder? In the meantime, I've attached a couple of screengrabs from White House website, where (at least right now) they are featuring my [blog post](#) on the Champions of Change [home page](#) - nice!

Rebecca

--

Rebecca Moore | [Google Earth Engine](#) & [Earth Outreach](#) (b) (6) | Google

On Thu, Jun 20, 2013 at 2:47 PM, Allison Lieber (b) (6) wrote:

All the photos taken during the event are [here](#)

Thanks!

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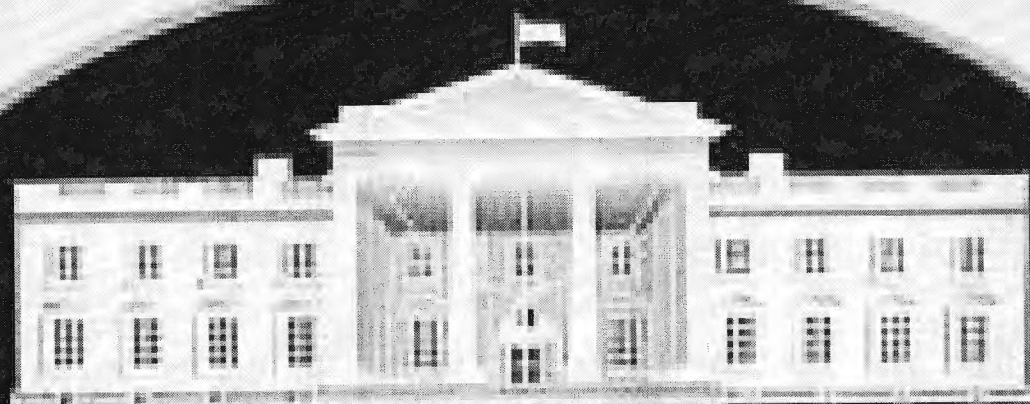
Allison Lieber | [Google Earth Outreach](#) | Program Manager (b) (6)

--

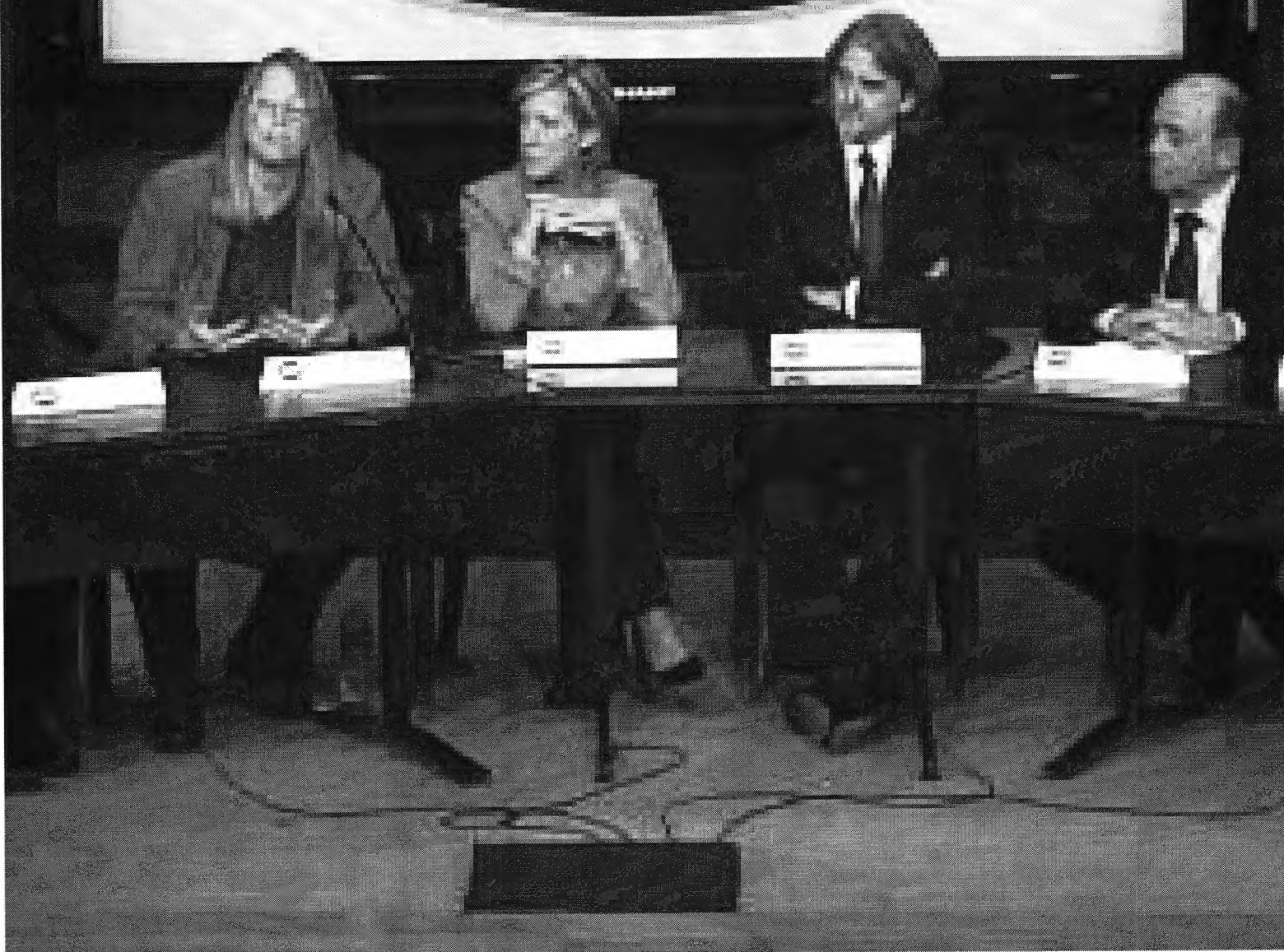


Matt | Lockwood (b) (6) (b) (6)

--  
Rachel Durfee | Global Communications & Public Affairs | Google | Email (b) (6)



**THE WHITE HOUSE**  
**WASHINGTON**



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**From:** Stebbins, Michael J.  
**Sent:** Monday, June 24, 2013 2:37 PM  
**To:** Deogirikar, Anjelika (Intern) (b) (6)  
**Subject:** RE: Photos from the Open Science Champions of Change

Thanks Anjelika.

Rebecca,  
I hope these suit your needs. Congrats again! Talk to you soon.  
Best,  
Mike

---

**From:** Deogirikar, Anjelika (Intern)  
**Sent:** Monday, June 24, 2013 2:30 PM  
**To:** (b) (6)  
**Cc:** Stebbins, Michael J.  
**Subject:** Photos from the Open Science Champions of Change

Hello Rebecca,  
Attached please find four photos of you from the Champions of Change event on Open Science!  
Thanks so much,  
Anjelika

---

**From:** Stebbins, Michael J.  
**Sent:** Monday, June 24, 2013 3:30 PM  
**To:** 'Allison Lieber'  
**Subject:** FW: Photos from the Open Science Champions of Change  
**Attachments:** IMG\_5369.JPG; IMG\_5575.JPG; IMG\_5586.JPG; IMG\_5649 - Version 2.JPG

Here you go...

---

**From:** Deogirikar, Anjelika (Intern)  
**Sent:** Monday, June 24, 2013 2:30 PM  
**To:** (b) (6)  
**Cc:** Stebbins, Michael J.  
**Subject:** Photos from the Open Science Champions of Change

Hello Rebecca,  
Attached please find four photos of you from the Champions of Change event on Open Science!  
Thanks so much,  
Anjelika













**From:** Jose Oyola-Sepulveda (b) (6)  
**Sent:** Wednesday, February 06, 2013 3:30 PM  
**To:** Dorgelo, Cristin  
**Subject:** Solve for X Invoice



Hi Cristin,  
Thank you for participating in Solve for X, we hope you enjoy it!  
Per relevant gift rules we are providing you with the invoice below covering food+beverages+swag for this event. If you require an invoice for anything else please let me know.

Regards,

-Jose

Jose Ramon Oyola-Sepulveda | Ethics and Compliance (b) (6) (b) (6)

## INVOICE

**BILLED TO:** Cristin Dorgelo  
White House

InvoiceNumber CAT182

InvoiceDate 2/6/13

Terms Net 30

**SEND PAYMENT TO:** Jose Ramon Oyola-Sepulveda  
1101 New York Avenue, NW  
Second Floor  
Washington, D.C. 20005

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1	Food + Beverages	\$ 550.00	\$ 550.00
1	Patagonia Jacket	\$ 200.00	\$ 200.00

Note: Please make checks payable to Google Inc.

Total \$750

Questions concerning this invoice? Call 202 (b) (6)

---

**From:** Will Patrick (b) (6)  
**Sent:** Wednesday, February 06, 2013 3:19 PM  
**To:** Babak Parviz (b) (6); Kevin Dowling; Aaron Zinman;  
(b) (6); Megan Smith; Neal Stephenson; Carl Malamud; Anthony Suter;  
Andreas Raptopoulos; Daphne Preuss; Mike Cheiky; Peter Diamandis; Omri Drory;  
Doriano Pougaza; Xavier Masson; Juan Enriquez; Molly S. Shoichet; Steve Jurvetson;  
Anna Patterson; Jack Hidary; Astro Teller; Coleman, Catherine G. (JSC-CB611);  
Sebastian Thrun; Kalil, Thomas A.; Hiroaki Kitano; Hermann Hauser; Adrien Treuille;  
Ramanathan Guha; Mir Imran; Nicholas Negroponte; David Berry; Lisa Gansky;  
(b) (6); Privahini Bradoo; Mercy Njima; Eric Brewer; Hal Varian; Ruth  
Gerson; Richard DeVaul; Johann Schleier-Smith; Mary Lou Jepsen; David Edwards  
**Cc:** Kathy Cooper; Karishma Shah; Merci Niebres; Tara Vega; Lisa Jiang; Obi Felten; Jay  
Nancarrow; Courtney Hohne  
**Subject:** Solve for X - Update from SfX Class of 2012 and SolveforX.com website 2.0 beta  
**Attachments:** Class of 2012 Update.pdf

Hello Solve for X Class of 2012!

Hope everyone is doing well. We are reaching out because as the next Solve for X group - Class of 2013 - is about to meet, we are thinking of you. As the event comes together, we have three fun things to share this week:

First, please find the "Solve for X Class of 2012" pdf attached, which has terrific updates from so many of you. The news is awesome --- thanks everyone who had time to send something!

Second, we are in quiet launch this week on our [SolveforX.com](http://SolveforX.com) website 2.0 --- we will blog about next week (Feb 11), but wanted to share it with you early -- here's a list of what's new just below -- please join the moonshot community.

Third, here's a short 3 min video we made recently about [Moonshot Thinking](#).

Thanks again for sending updates -- please send us any feedback on the website (including any bugs you come across!). Check in again next week when some of the videos from 2013 are up on the site.

We look forward to ongoing collaboration with all of you! Thank you for continuing to inspire us to think bigger and crazier.

Cheers,  
Will

SolveforX 2.0 Website Update:  
(will officially launch Feb 11)

- **We have added community features:** Please come create a profile / declare you <X> and join the online moonshot thinking community. Now anyone with web access can submit, watch, rate and share moonshots.

- **We've added some great partner teammates.** MIT Technology Review, Focus Forward Films, TED, X PRIZE, Singularity University, ASU CSI. These groups all have events and programs where moonshot thinking happens -- they are submitting relevant moonshot proposals from those programs to [www.solveforx.com](http://www.solveforx.com) and many will encourage and amplify Moonshot Thinking as a meme through their own events. Come watch, rate, share some of the great moonshots they have suggested to all of us...
- **Solve for X 2013 is happening this week - talks will be up next week.** We've curated a whole new group of moonshot proposals (they have a lot to live up to!) -- and we will start posting 2013 talks next week starting Monday Feb 11.
- **Our team is growing.** Astro & Megan are still our fearless leaders and co-hosts/ co-creators. I serve as the Moonshot Curator, Kathy Cooper is our web/marketing lead and event producer, and Karishma Shah is leading our partnership efforts. Everyone is part-time on the project and eager to move their area forward.
- **ASU CSI Emerge conference invite** - From February 28 to March 2, Arizona State University's Center for Science and the Imagination is hosting their second annual Emerge event which gathers together artists, engineers, scientists, science fiction writers, etc. to redesign the future and think about how our interactions with technology will change and shape that future. Last year's event had Neal Stephenson, Stewart Brand, Sherry Turkle, and others. As part of the Solve for X 2012 class, you are cordially invited to attend. Solve for X will be on the ground doing some special programming (e.g. brainstorming exploration session style) at the event and if anyone else is interested in attending or collaborating with Emerge or Solve for X, please contact Ed Finn, the director of ASU's Center for Science and Imagination, a (b) (6) and/or Karishma Shah a (b) (6)

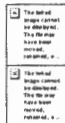
Image not available for this document, ID: 0.7.3759.13244.1

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**From:** Vint Cerf (b) (6)  
**Sent:** Thursday, February 07, 2013 8:03 AM  
**To:** Alec Ross; Ari Schwartz; bruce andrews; francisco sanchez; Jane Lute; Larry Strickling; mark weatherford; Sapiro, Miriam; pat gallagher; Philip L Verveer; Rich O'Lear; Kalil, Thomas A.  
**Subject:** Fwd: Eurasia Group Note - MIDDLE EAST: Support for the Muslim Brotherhood triggers rift in Gulf Cooperation Council

----- Forwarded message -----

**From:** Kamel, Ayham (b) (6)  
**Date:** Thu, Feb 7, 2013 at 8:01 AM  
**Subject:** Eurasia Group Note - MIDDLE EAST: Support for the Muslim Brotherhood triggers rift in Gulf Cooperation Council  
**To:** Vinton Cerf (b) (6)



**MIDDLE EAST: Support for the Muslim Brotherhood triggers rift in Gulf Cooperation Council**  
7 February 2013 07:23 AM EST



- The region's post-Arab Spring Sunni alliance between Saudi Arabia, Turkey, and Qatar is splintering.
- Qatar's extensive and growing financial and political support for the Muslim Brotherhood has caused a schism with other GCC nations.
- Most GCC states believe Qatar's policies are undermining their internal security and the alliance's national security priorities in Egypt, Syria, and Jordan.

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The post-Arab Spring accommodation between Saudi Arabia, Qatar, and Turkey is collapsing because of longstanding concerns over Qatari support for the Muslim Brotherhood and the failure to advance common objectives, particularly in Syria. Despite clear differences in the three governments' responses to events in Tunisia, Libya and Egypt, common interests in Syria, not least the desire to counter Iran's influence in the region, helped create an

unlikely and now short-lived alliance of convenience. The failure to bring about regime change in Syria and, more importantly, the reassertion of national priorities has brought the accommodation to an end. Turkey's initial desire to play an active role in the Arab Spring has receded, Saudi Arabian fear of the Muslim Brotherhood has intensified, and an increased Qatari determination to pursue its agenda with little coordination with other countries have all contributed to this realignment.

Critically, unrestrained Qatari support for the Muslim Brotherhood has deepened the rift between Doha and its counterparts in the GCC. Regimes in Saudi Arabia, the UAE, and Kuwait have long been unhappy by Qatari support for the organization. Their views have become stronger as events are leading them increasingly to see the Muslim Brotherhood as an imminent domestic threat to their regimes. While the UAE's leaders perceive this threat to be more immediate and concrete than its Saudi and Kuwaiti counterparts, the core concern is identical.

Gulf allies believe that the Brotherhood is exploiting wider calls for democratic change across the region to try to seize power in the oil-rich monarchies of the Gulf. Emboldened by the Arab Spring and supported by their allies in Egypt, branches of the Brotherhood in the UAE and Kuwait are challenging the political order. In Kuwait, the Muslim Brotherhood-dominated opposition has called for structural changes in the political system. Likewise, the Muslim Brotherhood-affiliated Islah movement in the UAE calls for a new political system that allows for free elections. As a result, Qatar's stance in support of the MB represents a growing challenge to other GCC regimes.

Qatar's role in supporting the Brotherhood in Egypt, Syria, and Jordan has also undermined the alliance's core national security interests across the region. In Egypt, other Gulf states want to use financial pressure to restrict the Muslim Brotherhood's power and its ability to establish itself as dominant regional player. Bypassing its GCC allies, Qatar has provided extensive loans to the Egyptian government. Egypt's small steps toward rapprochement with Iran have also sparked resentment in Gulf capitals which believe that the Brotherhood would have found it more difficult to pursue such policies without Qatari financial and political support. Many Gulf capitals believe that without strong Qatari support, Egypt would not have been able to invite Ahmadinejad to attend the Islamic summit, the first visit of its kind in 30 years. In the palaces of Riyadh, Qatari policy is perceived to be nothing less than meddling in Saudi Arabia's backyard.

In addition, in Syria, Qatar is abandoning efforts to coordinate policies with Saudi Arabia and the UAE. The fate of Syria is strategic to these countries, which oppose Qatar's exclusive support of rebel groups closely affiliated with the Muslim Brotherhood. Both countries recognize that the Brotherhood has significant support within Syrian society but do not want to see Bashar al Assad replaced by such a government, fearing that the Muslim Brotherhood could establish strategic and territorial continuity across Syria and Jordan.

Finally, Gulf States are alarmed by Qatar's inclination to ignore traditional powers in the region. The al Thani family has repeatedly challenged Saudi

Arabia and its role in setting policy in the GCC. More importantly, officials in Riyadh feel that Qatar continuously bypasses other Gulf countries in its interactions with Washington.

Happy to discuss,

Ayham Kamel  
Analyst, Middle East  
Tel: +4 (b) (6)

---

PDF rendering error: The file name has been changed, renamed, or deleted, verify that the file exists in the correct file and location.

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**From:** Ross LaJeunesse (b) (6)  
**Sent:** Thursday, February 07, 2013 12:44 PM  
**To:** Edelman, R. David; Maho Takahata  
**Subject:** Re: White House Internet Policy Meeting, 2/8 1PM

hi there david -- hope 2013 is going well for you so far. would have loved to join this, but am at HQ in california and unable to participate!

ross

On Thu, Feb 7, 2013 at 9:08 AM, FN-WHO-NEC\_Policy (b) (6) wrote:

Dear Mr Ross Lajeunesse:

On behalf of R. David Edelman, White House Senior Advisor for Internet, Innovation, and Privacy, I would like to invite you to the first in a series of small-group conversations about structuring the USG -industry in Internet policymaking post-WCIT. The meeting will take place **tomorrow, Friday the 8th**, in the Eisenhower Executive Office Building (17th St and State Pl). The meeting will begin at **1PM in room 460**. Please bring government issued identification and note that it may take up to 15 minutes for security processing. To RSVP, please return the attached WAVES form by 5:30PM today.

We look forward to meeting with you.

Regards,

Alex Krivit

*Internet Policy Team*

*National Economic Council*



--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations

Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

---

**From:** Edelman, R. David  
**Sent:** Monday, July 01, 2013 8:49 PM  
**To:** Johanna Shelton (b) (6)  
**Subject:** ConnectED Device meeting in MV?

Hey Johanna,

I wanted to get in touch as I'm planning a visit out to the Bay Area for mid -this month as a follow-up to the President's ConnectED initiative, which you may have read about. In Mooresville on June 6<sup>th</sup>, he committed to transforming American schools by wiring nearly all to next -generation fiber optic and wireless Internet, and getting digital devices and educational software into the hands of students across the country. (More info below; as you can tell, this is a major, legacy item for the Administration and on which we're focused at all levels.)

**I was hoping to enlist your help setting up a meeting in MV with the hardware, i.e. Nexus and Chromebook teams, as well as whoever leads your educational or institutional sales operation.** My goal would be to walk them through the President's challenge (which they can read about in advance), the potential opportunity, and hear about what Google might be able to offer in this space over the timeline POTUS laid out.

Logistically, I am looking at some availability in the **morning or afternoon of the 17<sup>th</sup>**, as I'll already be in the area **(speaking at Stanford around 11am)**. Would welcome your thoughts, and happy to hop on the phone to talk it through.

Thanks in advance!

Cheers,  
-David

**Some ConnectED links to explain the initiative and our thinking:**

From the launch event in Mooresville, NC:

<http://www.whitehouse.gov/photos-and-video/video/2013/06/06/president-obama-speaks-technology-schools> [Video of President's speech in Mooresville, NC]

<http://www.whitehouse.gov/the-press-office/2013/06/06/remarks-president-mooresville-middle-school-mooresville-nc> [Transcript of speech]

From the WH Blog:

<http://www.whitehouse.gov/blog/2013/06/06/bringing-america-s-students-digital-age> [Sperling, Munoz]

<http://www.whitehouse.gov/blog/2013/06/06/what-connected> [ODS]

<http://www.whitehouse.gov/blog/2013/06/14/Growing-Bipartisan-Support-for-ConnectED> [Edelman, Rodriguez]



<><><><><><><><><>

Senior Advisor for Internet, Innovation, and Privacy | The White House



**From:** George Ivanov (b) (6)  
**Sent:** Friday, February 08, 2013 2:24 PM  
**To:** Edelman, R. David  
**Subject:** Re: Catching Up

Works for me. See you then.

On Thu, Feb 7, 2013 at 8:40 PM, Edelman, R. David (b) (6) wrote:

20<sup>th</sup> in the afternoon is doable...3:30pm?

**From:** George Ivanov [mailto:[\(b\) \(6\)](#)]  
**Sent:** Wednesday, February 06, 2013 11:15 AM  
**To:** Edelman, R. David  
**Subject:** Re: Catching Up

How does 02/20 look on your calendar for M.E. Swing Coffee House (1702 G)?

Sincerely,

George

On Wed, Feb 6, 2013 at 10:34 AM, Edelman, R. David (b) (6) wrote:

Sure, actually, now's good as I'm about to go in meetings for the next several hours . Give me a ring.

<><><><><><><><><>

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Wednesday, February 06, 2013 10:34 AM  
**To:** Edelman, R. David  
**Subject:** Catching Up

Hi David,

Do you have some time for a quick call tomorrow or on Friday?

Sincerely,

George

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6)

(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Tuesday, July 02, 2013 12:25 AM  
**To:** 'Johanna Shelton'; 'George Ivanov'  
**Subject:** RE: ConnectED Device meeting in MV?

Great, thanks, Johanna!

George, appreciate your help, and look forward to hearing from you.

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Monday, July 01, 2013 11:19 PM Eastern Standard Time  
**To:** Edelman, R. David; George Ivanov  
**Subject:** Re: ConnectED Device meeting in MV?

+ George as he works with these teams frequently

Great! We will make it happen. I am on vacation this week in Oregon (it is so nice out here) but George and I will see what will work on our end and be back in touch.

On Jul 1, 2013 5:48 PM, "Edelman, R. David" (b) (6) wrote:

Hey Johanna,

I wanted to get in touch as I'm planning a visit out to the Bay Area for mid -this month as a follow-up to the President's ConnectED initiative, which you may have read about. In Mooresville on June 6<sup>th</sup>, he committed to transforming American schools by wiring nearly all to next-generation fiber optic and wireless Internet, and getting digital devices and educational software into the hands of students across the country. (More info below; as you can tell, this is a major, legacy item for the Administration and on which we're focused at all levels.)

**I was hoping to enlist your help setting up a meeting in MV with the hardware, i.e. Nexus and Chromebook teams, as well as whoever leads your educational or institutional sales operation.** My goal would be to walk them through the President's challenge (which they can read about in advance), the potential opportunity, and hear about what Google might be able to offer in this space over the timeline POTUS laid out.

Logistically, I am looking at some availability in the **morning or afternoon of the 17<sup>th</sup>, as I'll already be in the area (speaking at Stanford around 11am).** Would welcome your thoughts, and happy to hop on the phone to talk it through.



Thanks in advance!

Cheers,

-David

**Some ConnectED links to explain the initiative and our thinking:**

From the launch event in Mooresville, NC:

<http://www.whitehouse.gov/photos-and-video/video/2013/06/06/president-obama-speaks-technology-schools>  
[Video of President's speech in Mooresville, NC]

<http://www.whitehouse.gov/the-press-office/2013/06/06/remarks-president-mooresville-middle-school-mooresville-nc> [Transcript of speech]

From the WH Blog:

<http://www.whitehouse.gov/blog/2013/06/06/bringing-america-s-students-digital-age> [Sperling, Munoz]

<http://www.whitehouse.gov/blog/2013/06/06/what-connected> [ODS]

<http://www.whitehouse.gov/blog/2013/06/14/Growing-Bipartisan-Support-for-ConnectED> [Edelman, Rodriguez]





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**From:** Edelman, R. David  
**Sent:** Wednesday, July 03, 2013 5:24 PM  
**To:** George Ivanov  
**Cc:** Johanna Shelton  
**Subject:** RE: ConnectED Device meeting in MV?

Hi George,

Thanks for looking into it. I should be at Stanford from 10:30ish until perhaps 1. So morning or afternoon. I may also be back down on the 18<sup>th</sup>, if that's immensely better, though my timing is a bit tighter that day.

All the best,  
-David

**From:** George Ivanov [mailto:(b) (5)]  
**Sent:** Wednesday, July 03, 2013 5:03 PM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton  
**Subject:** Re: ConnectED Device meeting in MV?

Hi David,

Thanks for reaching out. I'm currently checking the availability of different team leads for that day. What times would currently work for you on the 17th?

Sincerely,  
George

On Tue, Jul 2, 2013 at 12:24 AM, Edelman, R. David (b) (5) wrote:  
Great, thanks, Johanna!

George, appreciate your help, and look forward to hearing from you.

-----Original Message-----

**From:** Johanna Shelton (b) (5)  
**Sent:** Monday, July 01, 2013 11:19 PM Eastern Standard Time  
**To:** Edelman, R. David; George Ivanov  
**Subject:** Re: ConnectED Device meeting in MV?

+ George as he works with these teams frequently

Great! We will make it happen. I am on vacation this week in Oregon (it is so nice out here) but George and I will see what will work on our end and be back in touch.

On Jul 1, 2013 5:48 PM, "Edelman, R. David" (b) (5) wrote:

Hey Johanna,

I wanted to get in touch as I'm planning a visit out to the Bay Area for mid -this month as a follow-up to the President's ConnectED initiative, which you may have read about. In Mooresville on June 6<sup>th</sup>, he committed to transforming American schools by wiring nearly all to next-generation fiber optic and wireless Internet, and getting digital devices and educational software into the hands of students across the country. (More info below; as you can tell, this is a major, legacy item for the Administration and on which we're focused at all levels.)

**I was hoping to enlist your help setting up a meeting in MV with the hardware, i.e. Nexus and Chromebook teams, as well as whoever leads your educational or institutional sales operation .** My goal would be to walk them through the President's challenge (which they can read about in advance), the potential opportunity, and hear about what Google might be able to offer in this space over the timeline POTUS laid out.

Logistically, I am looking at some availability in the **morning or afternoon of the 17<sup>th</sup>, as I'll already be in the area (speaking at Stanford around 11am)**. Would welcome your thoughts, and happy to hop on the phone to talk it through.

Thanks in advance!

Cheers,

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President Barack Obama views student projects created on laptops during a tour at Mooresville Middle School in Mooresville, N.C., June 6, 2013. (Official White House Photo by Pete Souza)

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

direct: (202) (b) (5) | topline: (202) (b) (5) | (b) (5)

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW

Washington, DC 20005

(b) (5)

(b) (5)







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**Sent:** Monday, July 08, 2013 12:25 PM  
**To:** George Ivanov  
**Cc:** Johanna Shelton  
**Subject:** RE: ConnectED Device meeting in MV?

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-David

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President Barack Obama views student projects created on laptops during a tour at Mooresville Middle School in Mooresville, N.C., June 6, 2013. (Official White House Photo by Pete Souza)

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George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW

Washington, DC 20005

(b) (5)

(b) (5)



---

**From:** Megan Smith (b) (5)  
**Sent:** Monday, February 11, 2013 12:10 PM  
**To:** Will Patrick  
**Cc:** Babak Parviz (b) (5); Kevin Dowling; Aaron Zinman; (b) (5); Neal Stephenson; Carl Malamud; Anthony Sutura; Andreas Raptopoulos; Daphne Preuss; Mike Cheiky; Peter Diamandis; Omri Drory; Dorian Pougaza; Xaviere Masson; Juan Enriquez; Molly S. Shoichet; Steve Jurvetson; Anna Patterson; Jack Hidary; Astro Teller; Coleman, Catherine G. (JSC-CB611); Sebastian Thrun; Kalil, Thomas A.; Hiroaki Kitano; Hermann Hauser; Adrien Treuille; Ramanathan Guha; Mir Imran; Nicholas Negroponte; David Berry; Lisa Gansky; (b) (5); Privahini Bradoo; Mercy Njima; Eric Brewer; Hal Varian; Ruth Gerson; Richard DeVaul; Johann Schleier-Smith; Mary Lou Jepsen; David Edwards; Kathy Cooper; Karishma Shah; Merci Niebres; Tara Vega; Lisa Jiang; Obi Felten; Jay Nancarrow; Courtney Hohne  
**Subject:** Re: Solve for X - Update from SfX Class of 2012 and SolveforX.com website 2.0 beta

Hi SolveForXers 2012,

Hope all is well with everyone. Quick update from here -- we just hosted the Solve for X Event Class of 2013 - many of the 18 talks are up already on SolveforX.com and more will post today.

We also launched the updated SolveforX.com website today -- adding community participation (community profiles-share-rate-etc and anyone can submit moonshots now (including some great partners added)). Here's the [SfX blog post today](#) for the launch and the [Moonshot Thinking video](#) (3mins).

Help us get the word out about #SolveforX ---- and come join (fill-in-your-short-profile) on the updated **SolveforX.com** and declare your x.

-- Megan, Astro and the SfX host team

<http://googleblog.blogspot.com/2013/02/solve-for-x-celebrating-moonshot.html>

## **Solve for X: Celebrating moonshot thinking—join us and declare your X!**

February 11, 2013

Last week we hosted our [2013 Solve for X event](#), where we gathered 50 experienced entrepreneurs, innovators and scientists from around the world, who are [taking on moonshots](#)—proposals that address a huge problem, suggest a radical solution that could work, and use some form of breakthrough technology to make it happen.

We heard 18 technology moonshot proposals, which you can watch on [SolveforX.com](#). Make sure to catch [Danielle Fong](#), whose creativity, courage and persistence shine through as she describes her potentially game-changing idea for renewable energy storage. Take a look at [Peter Diamandis and Eric Anderson](#) describing their new asteroid mining company, Planetary Resources—exactly the kind of moonshot thinking that Solve for X was created to celebrate. Watch [Flaminia Catteruccia](#) suggest an ingenious shift in our approach to stopping the

spread of Malaria, and check out [Keith Black's proposal](#) to diagnose Alzheimer's 20 years before any symptoms appear using a test that could be included in a routine eye exam.



video: [Solve for X: Moonshot Thinking](#)

### Supporting innovators in process, as they take risks and dream big

One of the reasons we created Solve for X was to provide a collaborative forum to celebrate and help innovators who are *in the process* of attempting to bring radically innovative solutions to reality—attempting moonshots. Moonshots aim to make something 10x better, not just 10 percent. We need many more of us to take on and support moonshots if we are to solve the seemingly intractable problems we face in the world. To do that, we need to better celebrate *the audacity of the attempt itself*—at the *start* and *in process*.

Today we celebrate our greatest and most famous innovators after their success —especially those who overcame extreme hurdles and intense skepticism on their path to taking moonshots that solved huge problems. We don't advocate for stopping this practice in any way—but we must also get better at supporting courageous innovators and their teams who take substantial risks to change the status quo as they *begin* and *while* they're acting—without the security of knowing if the moonshot will work. (For more, read Astro's piece on moonshot thinking today in [Wired](#).)

### SolveForX.com

Today we're launching some updated features on [SolveForX.com](#), a forum to encourage and amplify moonshot thinking and collaboration. We invite innovators everywhere to use SolveForX.com to promote and support one another, and we encourage everyone to join in, bring your passion and ingenuity, and think big.



*SolveforX.com: A forum to encourage and amplify moonshot thinking and collaboration*

- **Submit moonshots:** Whether it's an early idea, something you're already working on, a proposal you'd like to see others work on, or a moonshot idea from someone else that you'd like to promote, we'd like to hear from you—please [submit](#) those moonshot videos. Read more about [what qualifies as a moonshot](#).
- **Join and declare your X:** We've added community areas and [we hope you will join and create a profile declaring your X](#). Your "X" is something you are passionate about working on or solving in the world like learning access or robotics or climate change or raising happy kids. You can [watch, share and rate moonshots](#). Search to find moonshot proposals that match your interests and join the innovation conversation.
- **Check out even more moonshot ideas:** Several new [partners](#) have joined Solve for X to amplify moonshot ideas, including X PRIZE, GE FOCUS FORWARD, TED, MIT Technology Review, Singularity University, and ASU's Center for Science and the Imagination. Talks from their events and programs that are aligned with the moonshot ethos (huge problem, radical solution, breakthrough technology) are now cross-linked and hosted on SolveforX.com. Some of our favorites are [The Invisible Bicycle Helmet](#), [The Music Man](#), [Solar Roadways](#), [Bio-Integrated Electronics](#), [Simple Designs](#), [Slingshot](#) and [Gulf Oil Cleanup X PRIZE Winning Team Vor-Tek](#). Take a moment to watch them!

Our vision for Solve for X is that it becomes **a forum where technology-based moonshot thinking is practiced, celebrated and amplified by all of us**. We invite you to come collaborate with us at [www.SolveforX.com](http://www.SolveforX.com).

Posted by [Megan Smith](#) and [Astro Teller](#), co-hosts/creators of [Solve for X](#)



On Wed, Feb 6, 2013 at 12:19 PM, Will Patrick (b) (5) wrote:  
Hello Solve for X Class of 2012!

Hope everyone is doing well. We are reaching out because as the next Solve for X group - Class of 2013 - is about to meet, we are thinking of you. As the event comes together, we have three fun things to share this week:

First, please find the "Solve for X Class of 2012" pdf attached, which has terrific updates from so many of you. The news is awesome --- thanks everyone who had time to send something!

Second, we are in quiet launch this week on our [SolveforX.com](http://SolveforX.com) website 2.0 --- we will blog about next week (Feb 11), but wanted to share it with you early -- here's a list of what's new just below -- please join the moonshot community.

Third, here's a short 3 min video we made recently about [Moonshot Thinking](#).

Thanks again for sending updates -- please send us any feedback on the website (including any bugs you come across!). Check in again next week when some of the videos from 2013 are up on the site.

We look forward to ongoing collaboration with all of you! Thank you for continuing to inspire us to think bigger and crazier.

Cheers,  
Will

SolveforX 2.0 Website Update:  
(will officially launch Feb 11)

- **We have added community features:** Please come create a profile / declare you <X> and join the online moonshot thinking community. Now anyone with web access can submit, watch, rate and share moonshots.
- **We've added some great partner teammates.** MIT Technology Review, Focus Forward Films, TED, X PRIZE, Singularity University, ASU CSI. These groups all have events and programs where moonshot thinking happens -- they are submitting relevant moonshot proposals from those programs to [www.solveforx.com](http://www.solveforx.com) and many will encourage and amplify Moonshot Thinking as a meme through their own events. Come watch, rate, share some of the great moonshots they have suggested to all of us...
- **Solve for X 2013 is happening this week - talks will be up next week.** We've curated a whole new group of moonshot proposals (they have a lot to live up to!) -- and we will start posting 2013 talks next week starting Monday Feb 11.
- **Our team is growing.** Astro & Megan are still our fearless leaders and co-hosts/ co-creators. I serve as the Moonshot Curator, Kathy Cooper is our web/marketing lead and event producer, and Karishma Shah is leading our partnership efforts. Everyone is part-time on the project and eager to move their area forward.
- **ASU CSI Emerge conference invite** - From February 28 to March 2, Arizona State University's Center for Science and the Imagination is hosting their second annual Emerge event which gathers together artists, engineers, scientists, science fiction writers, etc. to redesign the future and think about how our interactions with technology will change and shape that future. Last year's event had Neal Stephenson, Stewart Brand, Sherry Turkle, and others. As part of the Solve for X 2012 class, you are cordially invited to attend. Solve for X will be on the ground doing some special programming (e.g. brainstorming exploration session



style) at the event and if anyone else is interested in attending or collaborating with Emerge or Solve for X, please contact Ed Finn, the director of ASU's Center for Science and Imagination, a (b) (5) and/or Karishma Shah a (b) (5)

---

**From:** Ross LaJeunesse (b) (5)  
**Sent:** Monday, February 11, 2013 1:50 PM  
**To:** Edelman, R. David; Maho Takahata  
**Subject:** Re: White House Internet Policy Meeting, 2/8 1PM

so sorry that this fell through the cracks, rD. was in calif with our ceo in an all-hands-on-deck sorta situation. hope we can participate and be helpful to you moving forward?

actually, i'm hoping to talk to you later this week if you have ten minutes? increasingly alarmed at state dept's approach to the post-WCIT challenges we're facing.

thanks  
ross

On Feb 7, 2013 1:20 PM, "Edelman, R. David" (b) (5) wrote:  
Ross,

No worries -- would you like to send an alternate?

-rD

---

**From:** Ross LaJeunesse [mailto:(b) (5)]  
**Sent:** Thursday, February 07, 2013 12:44 PM  
**To:** Edelman, R. David; Maho Takahata <(b) (5)>  
**Subject:** Re: White House Internet Policy Meeting, 2/8 1PM

hi there david -- hope 2013 is going well for you so far. would have loved to join this, but am at HQ in california and unable to participate!

ross

On Thu, Feb 7, 2013 at 9:08 AM, FN-WHO-NEC\_Policy (b) (5) wrote:

Dear Mr Ross Lajeunesse:

On behalf of R. David Edelman, White House Senior Advisor for Internet, Innovation, and Privacy, I would like to invite you to the first in a series of small-group conversations about structuring the USG -industry in Internet policymaking post-WCIT. The meeting will take place **tomorrow, Friday the 8th**, in the Eisenhower Executive Office Building (17th St and State Pl). The meeting will begin at **1PM in room 460**. Please bring government issued identification and note that it may take up to 15 minutes for security processing. To RSVP, please return the attached WAVES form by 5:30PM today.

We look forward to meeting with you.

Regards,

Alex Krivit

*Internet Policy Team*

*National Economic Council*

--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations  
Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

---

**From:** Ross LaJeunesse (b) (6)  
**Sent:** Monday, February 11, 2013 3:00 PM  
**To:** Edelman, R. David  
**Cc:** (b) (6)  
**Subject:** Re: White House Internet Policy Meeting, 2/8 1PM

sure thing, thanks. i'll call you at 9am tomorrow -- best number?

On Mon, Feb 11, 2013 at 2:30 PM, Edelman, R. David (b) (6) wrote:  
Ross,

No worries, it happens on this busy topic! Hope all's well back in MV. Would be happy to chat -- I'm on the West Coast (south though) Th-Fri, so it may be best to chat before logistics become hairy. Perhaps via phone tomorrow at 9am?

-rD

---

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Monday, February 11, 2013 01:49 PM  
**To:** Edelman, R. David; Maho Takahata <(b) (6)>  
**Subject:** Re: White House Internet Policy Meeting, 2/8 1PM

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**From:** Will Patrick (b) (6)  
**Sent:** Monday, February 11, 2013 6:39 PM  
**To:** (b) (6) Andras Forgacs; Shawn Douglas; Prashant K. Jain; Peter Diamandis; Steve Jurvetson (b) (6) Ehsan Afshari; Austen Heinz; Mir Imran; Catteruccia, Dr Flaminia; Anna Patterson; Padmasree Warrior (pwarrior); Chase, Charles; Vinod Khosla; Catherine Mohr; Jeff Surma; Geena Davis; O'Sullivan, Meghan; Nicholas Negroponte; Molly Morse; Marc Andreessen (b) (6) (b) (6) Dorgelo, Cristin (b) (6) Karishma Shah; Cady Coleman; Natalie Jeremijenko; (b) (6) Wael Ghonim; Bill Gross (b) (6) Black, Keith, L., M.D.; Regina Dugan; Cathy Zoi; Yoky matsuoka; Hermann Hauser; Rob Nail; Sergey Brin (b) (6)  
**Cc:** Megan Smith; Obi Felten; Astro Teller; Kathy Cooper; Will Patrick; Rodney Brooks  
**Subject:** SfX Class of 2013: Thanks for everything

SfX Class of 2013:

What an amazing three days. Thank you so much for joining us and being a part of our community. I feel very lucky to spend a portion of my day job helping to put this group together. As a young person, I feel awed by your intelligence & passion and inspired to do ever bigger and crazier things. Thank you for that!

A few things I wanted to share with you.

1. We announced the 2013 event and our new website ([www.solveforx.com](http://www.solveforx.com)) & partnerships this morning on the official Google [blog](#) (which includes the 'moonshot thinking' video).
2. We literally just pushed (most) of the talks public. Here are the links:
  - o Astro & Megan open Solve for X [will be [here](#)]
  - o [Peter & Eric](#) on asteroid mining
  - o [Eric's](#) introduction
  - o [Rodney](#) on american manufacturing
  - o [Shawn](#) on Targeted Therapeutics
  - o [Charles](#) on compact fusion
  - o [Danielle](#) on economical energy storage
  - o [Andras](#) on sustainable, scalable meat
  - o [Keith](#) on Alzheimer's diagnostics
  - o [Sergey](#) on taking moonshots & the value of failing
  - o [Geena](#) on gender inequality in media
  - o [Austen](#) on democratizing creation
  - o [Flaminia](#) on malaria eradication
  - o [Prashant](#) on optical computing
  - o [Bill](#) on solar cheaper than natural gas
  - o [Saul](#) on inflatable robotics
  - o [Molly](#) on replacing plastic
  - o [Ehsan](#) on low-cost terahertz
  - o [Jeff](#) on municipal waste to energy
  - o [Natalie](#) on xDrones
  - o Steve Jurvetson on the tech-accelerated rich poor gap [will be [here](#)]

3. We've started getting some press coverage ( [TechCrunch](#), [Verge](#), [Mashable](#)). We'd love your help with creating more buzz buzz buzz. For social media, try using #solveforx. If your company / organization would like to do any press, feel free to utilize the blog post as a starting point. I can also put you in touch with our comms team here at Google[x].
4. Check out Astro's [op-ed](#) in Wired.
5. We're looking for feedback! We'll send out a feedback form in the next couple days.
6. We're already searching for the next batch of moonshots for SfX 2014. What did we miss? Who should we be talking to? What moonshot idea should be represented on our stage?

Finally, the biggest outcomes of SfX 2012 came from the relationships created at the event ... I expect this year to be no different. Everyone who attended is on this email; don't be a stranger! Reach out to your fellow participants and continue the dialogue. Of course, you're more than welcome to reach out to me and anyone else on the Google[x] team (see cc'd list) for any reason.

Talk soon!

Cheers,

Will (on behalf of Astro, Megan and the rest of the SfX crew)



---

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**Sent:** Monday, July 08, 2013 2:04 PM  
**To:** George Ivanov  
**Cc:** Johanna Shelton  
**Subject:** RE: ConnectED Device meeting in MV?

Hi George,

George,

I did, thanks. I hope you did as well.

That's great, I look forward to it. I'll hold 2 -3pm.

One question: can you help me understand the difference between the Google for Education team, and the hardware engineering team making the product calls on Nexus/Chromebook generally?

I imagine that the discussion may get in the weeds a bit on the device specifics, and I was hoping that I might be able to have a chance to meet with the latter, or integrate them into the overall meeting – unless they are already!

Appreciate your help.

All the best,  
-David

**From:** George Ivanov [mailto: (b) (6)]  
**Sent:** Monday, July 08, 2013 1:53 PM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton  
**Subject:** Re: ConnectED Device meeting in MV?

Hi David,

I hope that you had a good 4th of July weekend. Our Google for Education team is happy to meet with you in Mountain View on Wednesday the 17th and it looks like 2 -3 pm Pacific/5-6 pm Eastern might be the best time for everyone. I'm still coordinating individual attendees but I will have more information as we get closer to the meeting. Thank you.

Sincerely,  
George

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George

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Great, thanks, Johanna!

George, appreciate your help, and look forward to hearing from you.

-----Original Message-----

**From:** Johanna Shelton (b) (6)

**Sent:** Monday, July 01, 2013 11:19 PM Eastern Standard Time

**To:** Edelman, R. David; George Ivanov

**Subject:** Re: ConnectED Device meeting in MV?

+ George as he works with these teams frequently

Great! We will make it happen. I am on vacation this week in Oregon (it is so nice out here) but George and I will see what will work on our end and be back in touch.

On Jul 1, 2013 5:48 PM, "Edelman, R. David" (b) (6) wrote:

Hey Johanna,

I wanted to get in touch as I'm planning a visit out to the Bay Area for mid -this month as a follow-up to the President's ConnectED initiative, which you may have read about. In Mooresville on June 6<sup>th</sup>, he committed to transforming American schools by wiring nearly all to next-generation fiber optic and wireless Internet, and getting digital devices and educational software into the hands of students across the country. (More info below; as you can tell, this is a major, legacy item for the Administration and on which we're focused at all levels.)

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Logistically, I am looking at some availability in the **morning or afternoon of the 17<sup>th</sup>, as I'll already be in the area (speaking at Stanford around 11am)**. Would welcome your thoughts, and happy to hop on the phone to talk it through.

Thanks in advance!

Cheers,

-David

**Some ConnectED links to explain the initiative and our thinking:**

From the launch event in Mooresville, NC:

<http://www.whitehouse.gov/photos-and-video/video/2013/06/06/president-obama-speaks-technology-schools>  
[Video of President's speech in Mooresville, NC]

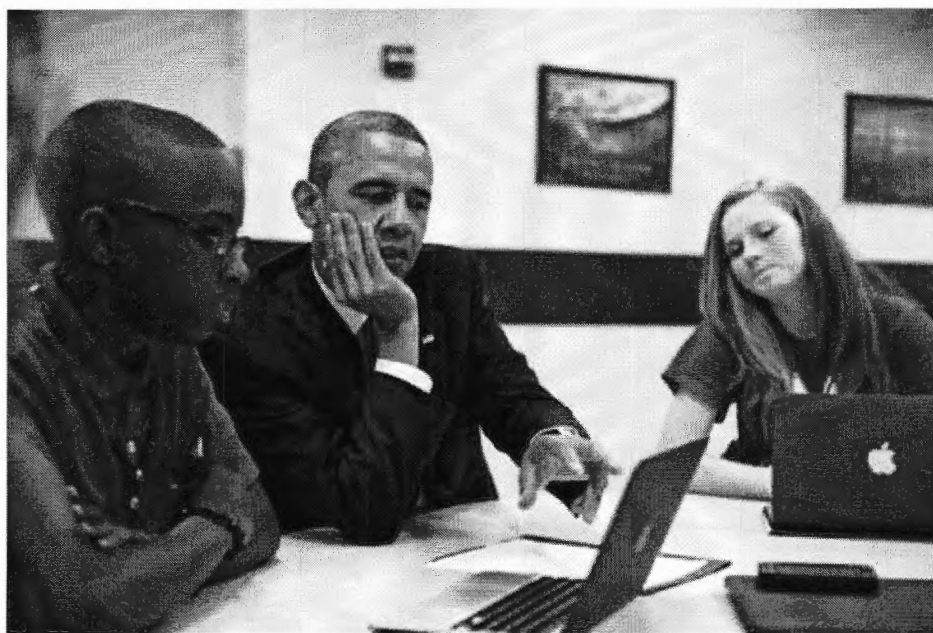
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From the WH Blog:

<http://www.whitehouse.gov/blog/2013/06/06/bringing-america-s-students-digital-age> [Sperling, Munoz]

<http://www.whitehouse.gov/blog/2013/06/06/what-connected> [ODS]

<http://www.whitehouse.gov/blog/2013/06/14/Growing-Bipartisan-Support-for-ConnectED> [Edelman, Rodriguez]



President Barack Obama views student projects created on laptops during a tour at Mooresville Middle School in Mooresville, N.C., June 6, 2013. (Official White House Photo by Pete Souza)

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

direct: (202) (b) (6) | topline: (202) (b) (6) | (b) (6)

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Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

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(b) (6) (b) (6)



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**From:** Ross LaJeunesse (b) (6)  
**Sent:** Tuesday, February 12, 2013 11:02 AM  
**To:** Edelman, R. David  
**Subject:** Fwd: For Edelman  
**Attachments:** IGF Funding.final.021113.pdf

hey rD

thanks for the time this morning.

confirming najarian.... Zzzzzzz

as mentioned, heroes of WTPF as far as we're concerned: bill smith and NTIA / hemmerlein in particular

you know this, but we're really concerned that we spend 2013 battling the ITU on its home turf at the expense of focusing on access in the developing world, and on fixing the multi-stakeholder groups, IGF first among them. att'd is a letter on that; you were already cc'd but i'm sure that happens a lot and wanted to be sure you saw it.

later

ross

--

**Ross LaJeunesse**  
Global Head of Free Expression and International Relations  
Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**



UNITED STATES COUNCIL FOR INTERNATIONAL BUSINESS

**Peter M. Robinson**  
President & CEO

February 11, 2013

The Honorable Esther Brimmer  
Assistant Secretary  
International Organization Affairs  
U.S. Department of State  
Washington, DC

The Honorable Lawrence E. Strickling  
Assistant Secretary  
Communications and Information  
U.S. Department of Commerce  
Washington, DC

Dear Secretary Brimmer and Secretary Strickling:

Not a day goes by that we are not reminded of the extraordinary power of the Internet to generate and advance business growth, innovation, creativity, exchange of knowledge, and economic development throughout the world. The United States has consistently maintained a policy supporting multi-stakeholder dialogue on Internet governance matters. Members of the United States Council for International Business (USCIB), an organization of more than 300 US-based global companies, professional services firms, and business associations from every sector of the economy, believe strongly that a safe and secure Internet is critical for all sectors of the economy to fully reap the benefits of this technological miracle.

The ongoing global debate on Internet governance issues has highlighted the importance of innovative global multi-stakeholder institutions, such as the Internet Governance Forum (IGF). We are committed to maintaining and growing business support for the IGF through financial contributions, active participation, and other in-kind support. The IGF has been supported by voluntary contributions from a diverse group of stakeholders over its seven-year existence. Now is the time for businesses, governments, and others to demonstrate their commitment to, and support for, the IGF.

Toward this end, USCIB is reaching out to you at this critical juncture to urge U.S. government financial support for the IGF. We believe this support should at least match the contributions of other donor countries, as noted below, and that the U.S. government should consider challenging other governments to match these contributions. The IGF is a cornerstone of U.S. Internet policy. Such support would go a long way toward enhancing the credibility of U.S. advocacy for this model global forum, which provides a platform for debate among all Internet stakeholders, promotes access to the Internet, and demonstrates how to further harness its benefits while addressing the challenges it poses. Such debates in the IGF and similar fora are critical for the continued health of the digital society and economy. It also would be appropriate for the U.S. government to consider a long-term IGF strategy, which would include an annual or even multi-year commitment to funding it. We invite you to consider the following:

**Value of IGF Multi-stakeholder Model --** Since its creation by a UN conference in 2005, the IGF has served as an indispensable forum for consultation among multiple stakeholders from government, business, civil society, the technical community, and academia on various aspects of Internet governance. It has served as an essential space for the exchange of best practices, policy approaches, technical expertise, and experience among these stakeholder groups. The flexibility, transparency, and inclusiveness of the IGF's multi-stakeholder model, in fact, have enabled the Internet to flourish as a platform for business and economic development free of the stifling influence of inter-governmental regulation. Indeed, the U.S. Congress recognized this last year when members of both parties and both houses approved a resolution urging the

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212.354.4480 tel  
212.575.0327 fax  
[www.uscib.org](http://www.uscib.org)

Global Business Leadership as the U.S. Affiliate of:  
International Chamber of Commerce (ICC)  
International Organization of Employers (IOE)  
Business and Industry Advisory Committee (BIAC) to the OECD  
ATA Carnet System



preservation and enhancement of the multi-stakeholder model for Internet governance. This forum requires adequate resources to be able to fully reach its potential and meet the expectations of the global community.


**Outreach to Developing Countries** – One important element of promoting successful IGFs is ensuring participation from and relevance to emerging economies and stakeholders. With an adequately funded IGF, engagement of stakeholders from developing countries in the IGF and the global multi-stakeholder debate – and the development of sound Internet policies – benefits all.

**Strengthening the Model** – Increased engagement by developing countries in the IGF also will serve to strengthen the global multi-stakeholder model and keep the Internet free from unnecessary regulation. At the December 2012 meeting in Dubai of the World Conference on International Telecommunications (WCIT), we witnessed growing support within the developing world for bringing governance of the Internet more under the familiar purview of the International Telecommunication Union (ITU). The views of many of these countries were shaped by their lack of direct experience in the IGF. As you know, the U.S. Government declined to sign the Final Acts on grounds that a treaty conference is not the appropriate venue to address policies related to the Internet. Failure to adequately increase engagement of developing countries may result in a tipping of the balance in favor of ITU regulation of the Internet, compromising the dynamism that is the essence of the digital economy to the benefit of no one.

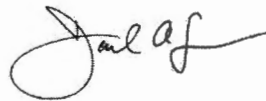
**IGF Budgetary Strictures** – For the past six years, the IGF has operated on a shoe-string budget. In view of these limitations, the United Nations formed a Trust Fund Project to help underwrite the IGF Secretariat's staffing needs, operations, and capacity-building initiatives. We are updating our records related to the operating budget, but note that last year total contributions from governments, the private sector, and non-profit groups amounted to \$855,834 -- \$210,000 of which was donated by US business and a non-profit entity. In 2013, pledged funds amounted to approximately \$536,702, nearly all coming from the European Union (\$148,458) and the governments of the Netherlands and Finland (\$40,766 and \$262,640, respectively). This amount still is less than what the IGF needs to hire a new Executive Director, support the operations of the small Secretariat staff, and expand capacity-building objectives. The U.S. Government is noticeably absent from this list of donors. In this regard, we call to your attention a joint hearing on February 5, 2013 of the House Energy and Commerce and Foreign Affairs Committees. This hearing featured an important colloquy between Members and witnesses, including Federal Communications Commissioner Robert McDowell, Ambassador David Gross, and representatives from civil society and the technical community, on the merits of U.S. government financial support for the IGF.

To conclude, we are keenly sensitive to the current budget climate. Nevertheless, we feel that the U.S. Government has the capability to provide meaningful support to the IGF and, in turn, to help safeguard the future of the multi-stakeholder model for debate on global Internet governance that both business and government recognize is critical to digital prosperity throughout the world.

Sincerely,



Peter M. Robinson  
President and CEO  
United States Council for International Business



Ambassador David Gross  
Chairman, ICT Policy Committee  
United States Council for International Business

cc: Fiona Alexander  
Robyn Disselkoen  
R. David Edelman  
Liesyl Franz  
Christopher Painter  
John Spilsbury

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**From:** Edelman, R. David  
**Sent:** Monday, July 08, 2013 2:58 PM  
**To:** George Ivanov  
**Cc:** Johanna Shelton  
**Subject:** RE: ConnectED Device meeting in MV?

George,

Sounds like you hit the nail right on the head! If it's the same team that met with LEAD, you've definitely assembled the right folks.

Will throw together some points by week's end, as requested.

Thanks,  
-rD

**From:** George Ivanov [mailto: (b) (6)]  
**Sent:** Monday, July 08, 2013 2:45 PM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton  
**Subject:** Re: ConnectED Device meeting in MV?

Hi David,

This is a cross-functional team under engineering research that handles both internal and external education efforts, across content, software, and hardware. I am pulling together the same group that supplied feedback to the LEAD Commission last year and will be able to speak about a number of different Google efforts that tie in with the ConnectED initiative. It would be helpful if you could provide us with any additional information that might be available relating to the "Educational Devices for Students" portion of the ConnectED fact sheet.

Sincerely,  
George

On Mon, Jul 8, 2013 at 2:03 PM, Edelman, R. David (b) (6) wrote:

Hi George,

George,

I did, thanks. I hope you did as well.

That's great, I look forward to it. I'll hold 2 -3pm.

One question: can you help me understand the difference between the Google for Education team, and the hardware engineering team making the product calls on Nexus/Chromebook generally?

I imagine that the discussion may get in the weeds a bit on the device specifics, and I was hoping that I might be able to have a chance to meet with the latter, or integrate them into the overall meeting – unless they are already!

Appreciate your help.

All the best,

-David

**From:** George Ivanov [mailto:(b) (6)]

**Sent:** Monday, July 08, 2013 1:53 PM

**To:** Edelman, R. David

**Cc:** Johanna Shelton

**Subject:** Re: ConnectED Device meeting in MV?

Hi David,

I hope that you had a good 4th of July weekend. Our Google for Education team is happy to meet with you in Mountain View on Wednesday the 17th and it looks like 2 -3 pm Pacific/5-6 pm Eastern might be the best time for everyone. I'm still coordinating individual attendees but I will have more information as we get closer to the meeting. Thank you.

Sincerely,

George

On Mon, Jul 8, 2013 at 12:24 PM, Edelman, R. David (b) (6) wrote:

Hi George,

Hope you had a great holiday. In case this was lost in the shuffle, just circling back in the hopes of finalizing those meetings, as my team is trying to fix my calendar before I depart on travel Wednesday. Let me know if I can be of help w/r/t logistics. Many thanks for your help!

Cheers,

-David

**From:** George Ivanov [mailto:(b) (6)]

**Sent:** Wednesday, July 03, 2013 5:03 PM

**To:** Edelman, R. David

**Cc:** Johanna Shelton

**Subject:** Re: ConnectED Device meeting in MV?

Hi David,

Thanks for reaching out. I'm currently checking the availability of different team leads for that day. What times would currently work for you on the 17th?

Sincerely,

George

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Great, thanks, Johanna!

George, appreciate your help, and look forward to hearing from you.

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**From the WH Blog:**

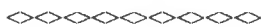
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President Barack Obama views student projects created on laptops during a tour at Mooresville Middle School in Mooresville, N.C., June 6, 2013. (Official White House Photo by Pete Souza)



**R. David Edelman**

Senior Advisor for Internet, Innovation, and Privacy | The White House

direct: (202) (b) (6) | topline: (202) (b) (6) | (b) (6)

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George Ivanov  
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(b) (6) (b) (6)

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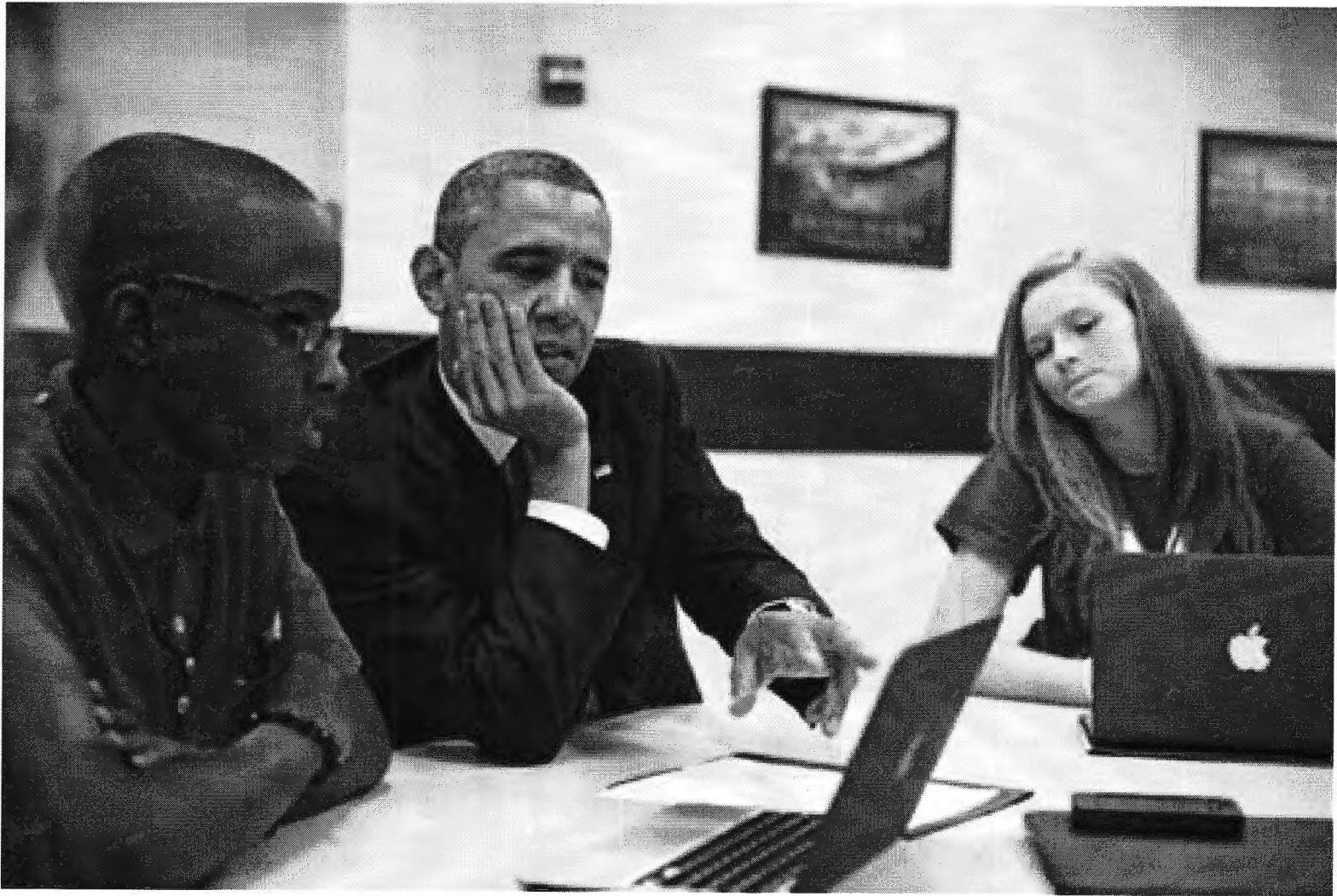
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**From:** Dorgelo, Cristin  
**Sent:** Wednesday, July 10, 2013 10:11 AM  
**To:** Kyle Monson  
**Cc:** George Ivanov; Tom Critchlow; Lorraine Yurshansky; WORLEY, LAUREN B. (HQ-NA000)  
**Subject:** RE: Maker Camp Hangout in July

Hi Kyle and team:

I've copied Sarah Becky Ramsey and Lauren Worley from NASA Comms and Phil Larson who works on the space portfolio here at White House OSTP. We're all super excited about the Maker Camp Hangout about the Asteroid Grand Challenge and Grand Challenges more broadly.

Updates:

- 1) We're good with the 19<sup>th</sup> but would like to lock in specific timing. What time of day would you propose (I'm free after noon EDT)?
- 2) We'd like to have Jenn Gustetic, NASA's Prizes and Challenges Program Executive, join me for the hangout. Jenn's fantastic, and can give more detail on the Asteroid Challenge, while I can give the broader context for Grand Challenges more generally.

Given that, should we get a call set to plan details of the hangout?

NASA: What other questions do you have for Google at this point? Also, NASA, you might want to brainstorm any visual props that we could have on hand.

By the way, if you want any background on the Asteroid Grand Challenge or Asteroids, see:

<http://www.whitehouse.gov/blog/2013/05/28/we-geeks-asteroids>

[http://www.nasa.gov/mission\\_pages/asteroids/initiative/index.html#.Ud1qsPmyBjQ](http://www.nasa.gov/mission_pages/asteroids/initiative/index.html#.Ud1qsPmyBjQ)

This is going to be great!

Cristin

**From:** Kyle Monson [mailto: (b) (6)]  
**Sent:** Wednesday, July 10, 2013 2:32 AM  
**To:** Dorgelo, Cristin  
**Cc:** George Ivanov; Tom Critchlow; Lorraine Yurshansky  
**Subject:** Re: Maker Camp Hangout in July

Hi Cristin, thanks so much for getting back to us. Question for you: we're taking a Hangout Field Trip to NASA Ames SpaceShop on Friday the 19th...any chance that date would work for you? That way, we can have an epic NASA + White House space day at Maker Camp.

It'd be really cool, and give us a bit more time to get the review done. But let us know if the date change messes things up on your end and we'll go back to the 15th.

Thanks!

Kyle

On Tue, Jul 9, 2013 at 1:42 PM, Dorgelo, Cristin (b) (6) wrote:

Hi all:

SO sorry that I haven't gotten back to you yet, it's been super hectic with the 4<sup>th</sup> of July holiday thrown in and a few big events.

But review has continued to move forward over here. We're leaning towards doing this from NASA HQ and teaming me with a cool NASA person, likely the lead on the Asteroid Grand Challenge.

I expect to be able to loop you in with NASA comms to confirm things tonight or tomorrow.

Till soon – Cristin

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Tuesday, July 02, 2013 10:05 AM  
**To:** Dorgelo, Cristin  
**Cc:** Tom Critchlow; Kyle Monson; Lorraine Yurshansky  
**Subject:** Re: Maker Camp Hangout in July

Hello Cristin,

Just refreshing this thread ahead of everyone's vacations. At this stage, July 15th still looks great on our end and we are looking to finalize the schedule for that week.

In addition, have you received any feedback from the Office of Digital Strategy or NASA comms? We would be happy to provide them with any additional information that might be needed.

Thank you for your help and we look forward to hearing from you soon.

Sincerely,

George

On Tue, Jun 25, 2013 at 5:01 PM, Tom Critchlow (b) (6) wrote:

Hi Cristin,

Apologies for the delay. I wasn't able to use the submit feature in the PDF but please see attached form with our responses.

Thanks

Tom

On Thu, Jun 20, 2013 at 10:01 AM, Dorgelo, Cristin (b) (6) wrote:

Thanks! I'll bounce this off of our digital strategy & NASA comms teams here.

I've attached the form I'll need completed & returned to me.

We have an initial preference for 7/15, BTW, due to some communications activities later in the week.

Cristin

**From:** Kyle Monson [mailto:(b) (6)]  
**Sent:** Wednesday, June 19, 2013 5:28 PM  
**To:** Dorgelo, Cristin; George Ivanov; Lorraine Yurshansky; Tom Critchlow  
**Subject:** Maker Camp Hangout in July

Hi Cristin, based on our conversation today, here's our recommendation for the Maker Camp Hangout in July. Very excited about this opportunity!

### **The Asteroid Challenge: Calling All Young Makers**

*A 45-minute Hangout with Cristin Dorgelo during Maker Camp's "Create the Future" week.*

July 15th or 17th, early afternoon (ideally 2pm Eastern)

#### **Basic Idea:**

Cristin explains the Asteroid Challenge to a live audience of young Maker Campers, with a show - and-tell session where she shows off a chunk of asteroid and some NASA hardware. Could also include video footage or teaser video for Asteroid Challenge or Grand Challenges. Make will supply an interested group of participants for the Hangout, along with any Cristin's team might suggest.

Cristin also shares info about the Grand Challenges program, her own background, and how makers can get involved in big ideas.

Ideally, Cristin also has a simple, space -related project to build with the kids, so she's doing something with her hands while chatting. We'll come up with some possibilities.

We'll also tease the "Field Trip Friday" to NASA Ames "SpaceShop" later that week.

#### **Teaser Campaign**

Kicks off a few days in advance:

We'll challenge the campers to post their own asteroid ideas to Maker Camp's Google+ Community...could be photos, illustrations, GIFs, videos. The best/most popular ideas will get shared with Cristin on the Hangout.

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Kyle Monson | Creative Lab | (b) (6) | (b) (6)

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Tom Critchlow | Creative Lab | (b) (6) | 9177160741

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George Ivanov  
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(b) (6) (b) (6)

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Kyle Monson	Creative Lab	(b) (6)		(b) (6)
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Tom Critchlow   Creative Lab	(b) (6)	9177160741
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George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6)	(b) (6)
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**Subject:** Invitation: Hold: Coffee With David Edelmann @ Wed Feb 20, 2013 2:30pm - 3:20pm  
(b) (6)  
**Location:** M.E. Swing Coffee House  
**Start:** Wed 2/20/2013 2:30 PM  
**End:** Wed 2/20/2013 3:20 PM  
**Show Time As:** Tentative  
**Recurrence:** (none)  
**Meeting Status:** Not yet responded  
**Organizer:** George Ivanov

[more details »](#)

**Hold: Coffee With David Edelmann**

When Wed Feb 20, 2013 2:30pm – 3:20pm Eastern Time  
Where M.E. Swing Coffee House ([map](#))  
Calendar (b) (6)  
Who .

George Ivanov - or:

(b) (6)

Going? **Yes** - **Maybe** - **No** [more options »](#)

Invitation from [Google Calendar](#)

You are receiving this courtesy email at the account (b) (6) because you are an attendee of this event.

To stop receiving future notifications for this event, decline this event. Alternatively you can sign up for a Google account at <https://www.google.com/calendar/> and control your notification settings for your entire calendar.



invite.ics

BEGIN:VCALENDAR  
PRODID:-//Google Inc//Google Calendar 70.9054//EN  
VERSION:2.0  
CALSCALE:GREGORIAN  
METHOD:REQUEST  
BEGIN:VEVENT  
DTSTART:20130220T193000Z  
DTEND:20130220T202000Z  
DTSTAMP:20130212T203031Z  
ORGANIZER;CN=George Ivanov:mailto:(b)(6)  
UID (b)(6)  
ATTENDEE;CUTYPE=INDIVIDUAL;ROLE=REQ-PARTICIPANT;PARTSTAT=ACCEPTED;RSVP=TRUE  
;CN (b)(6) X-NUM-GUESTS=0:mailto:(b)(6)  
ATTENDEE;CUTYPE=INDIVIDUAL;ROLE=REQ-PARTICIPANT;PARTSTAT=NEEDS-ACTION;RSVP=TRUE;CN (b)(6) X-NUM-GUESTS=0:mailto:ross\_d\_edelman@os  
tp.eop.gov  
CREATED:20130208T145332Z  
DESCRIPTION:View your event at [http://www.google.com/calendar/event?action=VIEW&eid=bzu4bzc5c201NGNtZWQ2NHR2YTFvNGpucjggcm9zc19kx2VkZWxtYW5Ab3N0cc5lb3AuZ292&tok=MjMjZ2VvcmdlaxZhbm92QGdvd2dsZS5jb20wZWl3MzMzM2Y5MTE2MmY1MWRizj1hMTQ1MDVhZjZmYjAwMTJkYjNl&ctz=America/New\\_York&hl=en](http://www.google.com/calendar/event?action=VIEW&eid=bzu4bzc5c201NGNtZWQ2NHR2YTFvNGpucjggcm9zc19kx2VkZWxtYW5Ab3N0cc5lb3AuZ292&tok=MjMjZ2VvcmdlaxZhbm92QGdvd2dsZS5jb20wZWl3MzMzM2Y5MTE2MmY1MWRizj1hMTQ1MDVhZjZmYjAwMTJkYjNl&ctz=America/New_York&hl=en).  
LAST-MODIFIED:20130212T203031Z  
LOCATION:M.E. Swing Coffee House  
SEQUENCE:1  
STATUS:CONFIRMED  
SUMMARY:Hold: Coffee with David Edelmann  
TRANSP:OPAQUE  
END:VEVENT  
END:VCALENDAR

---

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**Sent:** Wednesday, July 10, 2013 11:45 AM  
**To:** George Ivanov  
**Cc:** Johanna Shelton  
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Thanks,  
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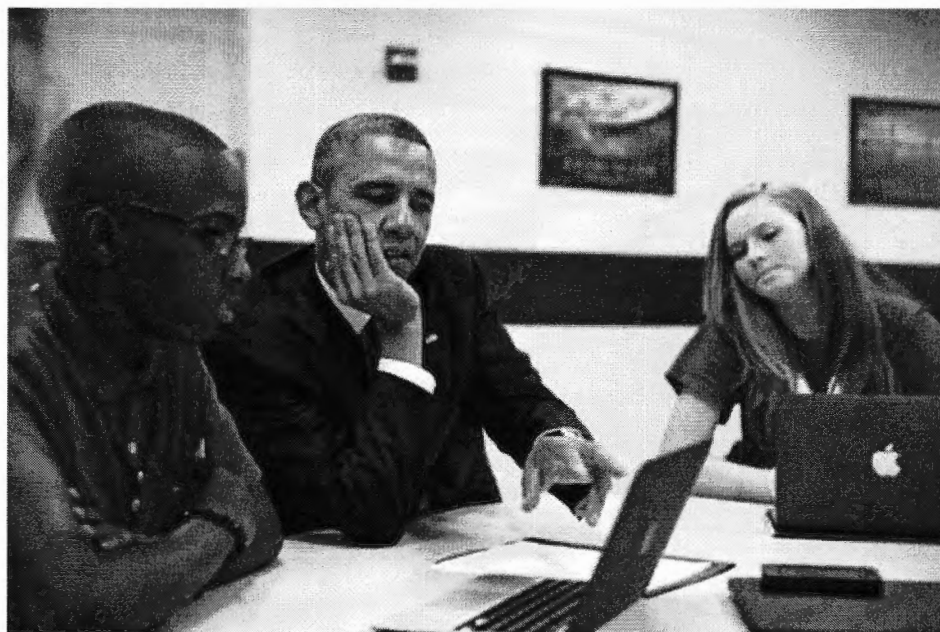
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President Barack Obama views student projects created on laptops during a tour at Mooresville Middle School in Mooresville, N.C. June 6, 2013. (Official White House Photo by Pete Souza)

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**From:** George Ivanov (b) (6)  
**Sent:** Tuesday, February 12, 2013 3:38 PM  
**To:** Edelman, R. David  
**Subject:** Re: Meeting

Hi David,

2:30 would be great - just sent a calendar invite. We have several people that are assessing different angles of the CFAA issue. Let's discuss at the coffee.

Sincerely,  
George

On Tue, Feb 12, 2013 at 3:28 PM, Edelman, R. David (b) (6) wrote:

George,

Have to move our coffee on the 20<sup>th</sup> – perhaps to 2:30pm?

Also and perhaps on a related note, who's following CFAA for Google?

Cheers,

-rD

◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇

**R. David Edelman**

Senior Advisor for Internet, Innovation, and Privacy

ph: (202) (b) (6) | bb: (202) (b) (6)

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---

**From:** George Ivanov (b) (6)  
**Sent:** Tuesday, February 12, 2013 3:44 PM  
**To:** Edelman, R. David  
**Subject:** Re: Meeting

ok. Let me check. I'll get back to you on this asap.

On Tue, Feb 12, 2013 at 3:43 PM, Edelman, R. David (b) (6) wrote:

George,

Perfect, thanks. I may actually need to know before then on CFAA, if Google is to play a part in our discussions. If we could only accommodate one, would it be you? Pablo? Johanna?

Thanks,

-rD

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676 677

(b) (6) (b) (6)

—

2

Washington, DC 20005

(b) (6)

(b) (6)

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**From:** Ross LaJeunesse (b) (6)  
**Sent:** Tuesday, February 12, 2013 5:18 PM  
**To:** Edelman, R. David  
**Subject:** Re: For Edelman

thanks. you're the man

On Tue, Feb 12, 2013 at 5:04 PM, Edelman, R. David (b) (6) wrote:

Ross,

Got it, thanks. I made sure the appropriate folks were informed on all sides.

Yes, I couldn't agree more on the latter, and the sentiment in the letter. I flagged for State seniors.

Cheers,

-rD

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 11:02 AM  
**To:** Edelman, R. David  
**Subject:** Fwd: For Edelman

hey rD

thanks for the time this morning.

confirming najarian.... Zzzzzzz

as mentioned, heroes of WTPF as far as we're concerned: bill smith and NTIA / hemmerlein in particular

you know this, but we're really concerned that we spend 2013 battling the ITU on its home turf at the expense of focusing on access in the developing world, and on fixing the multi-stakeholder groups, IGF first among them. att'd is a letter on that; you were already cc'd but i'm sure that happens a lot and wanted to be sure you saw it.

later

ross

--

**Ross LaJeunesse**

Global Head of Free Expression and International Relations

Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

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**From:** Johanna Shelton (b) (6)  
**Sent:** Tuesday, February 12, 2013 3:54 PM  
**To:** Edelman, R. David  
**Subject:** CFAA

re participants in any discussions, you should start with Markham Erickson from the Internet Association - you know him right?

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Hal Varian (b) (6)  
**Sent:** Tuesday, February 12, 2013 8:20 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non-majors

I plan on seeing you at 10 AM at Caribou Coffee – 17<sup>th</sup> and Penn.

My cell phone i (b) (6)

On Mon, Jan 21, 2013 at 5:25 PM, Hal Varian (b) (6) wrote:  
That's the same metro as Google, so should be easy. My cell i (b) (6)

On Mon, Jan 21, 2013 at 2:20 PM, Kalil, Thomas A. (b) (6) wrote:

Sounds good. See you at Caribou – 17<sup>th</sup> and Penn. Near Farragut West – 17<sup>th</sup> Street exit.

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**From:** Hal Varian [mailto:(b) (6)]  
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**Subject:** Re: undergrad statistics resource for non -majors

7 AM body time? I should be able to communicate after a few cups of coffee.

What metro stop?

On Mon, Jan 21, 2013 at 11:49 AM, Kalil, Thomas A. (b) (6) wrote:

How about 10 am on the 13<sup>th</sup> – is that slightly more civilized?

**From:** Hal Varian [mailto:(b) (6)]

**Sent:** Sunday, January 20, 2013 1:39 AM

**To:** Kalil, Thomas A.

**Subject:** Re: undergrad statistics resource for non -majors

Sure, that will work.

On Sat, Jan 19, 2013 at 5:42 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Hal:

Feb 12<sup>th</sup> is SOTU, so we are usually busy then.

Coffee on Feb 13<sup>th</sup>?

Best,

Tom

**From:** Hal Varian [mailto:(b) (6)]

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**To:** Kalil, Thomas A.

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<http://www.dartmouth.edu/~chance/index.html>

Hey, Tom, what are your plans. I'm going to be at Google DC, Feb 12 -13. Want to come to a group dinner there on Feb 12?

---

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That would be great. Just let me know the venue when you can. Thanks for accommodating!

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**Subject:** Re: ConnectED Device meeting in MV?

+ George as he works with these teams frequently

Great! We will make it happen. I am on vacation this week in Oregon (it is so nice out here) but George and I will see what will work on our end and be back in touch.

On Jul 1, 2013 5:48 PM, "Edelman, R. David" (b) (6) wrote:

Hey Johanna,

I wanted to get in touch as I'm planning a visit out to the Bay Area for mid -this month as a follow-up to the President's ConnectED initiative, which you may have read about. In Mooresville on June 6<sup>th</sup>, he committed to transforming American schools by wiring nearly all to next-generation fiber optic and wireless Internet, and getting digital devices and educational software into the hands of students across the country. (More info below; as you can tell, this is a major, legacy item for the Administration and on which we're focused at all levels.)

**I was hoping to enlist your help setting up a meeting in MV with the hardware, i.e. Nexus and Chromebook teams, as well as whoever leads your educational or institutional sales operation.** My goal would be to walk them through the President's challenge (which they can read about in advance), the potential opportunity, and hear about what Google might be able to offer in this space over the timeline POTUS laid out.

Logistically, I am looking at some availability in the **morning or afternoon of the 17<sup>th</sup>, as I'll already be in the area (speaking at Stanford around 11am).** Would welcome your thoughts, and happy to hop on the phone to talk it through.

Thanks in advance!



Cheers,

-David

**Some ConnectED links to explain the initiative and our thinking:**

From the launch event in Mooresville, NC:

<http://www.whitehouse.gov/photos-and-video/video/2013/06/06/president-obama-speaks-technology-schools>  
[Video of President's speech in Mooresville, NC]

<http://www.whitehouse.gov/the-press-office/2013/06/06/remarks-president-mooresville-middle-school-mooresville-nc> [Transcript of speech]

From the WH Blog:

<http://www.whitehouse.gov/blog/2013/06/06/bringing-america-s-students-digital-age> [Sperling, Munoz]

<http://www.whitehouse.gov/blog/2013/06/06/what-connected> [ODS]

<http://www.whitehouse.gov/blog/2013/06/14/Growing-Bipartisan-Support-for-ConnectED> [Edelman, Rodriguez]



President Barack Obama views student projects created on laptops during a tour at Mooresville Middle School in Mooresville, N.C., June 6, 2013. (Official White House Photo by Pete Souza)

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

direct: (202) (b) (6) | topline: (202) (b) (6) | (b) (6)

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Policy Analyst | Google Inc.  
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Washington, DC 20005

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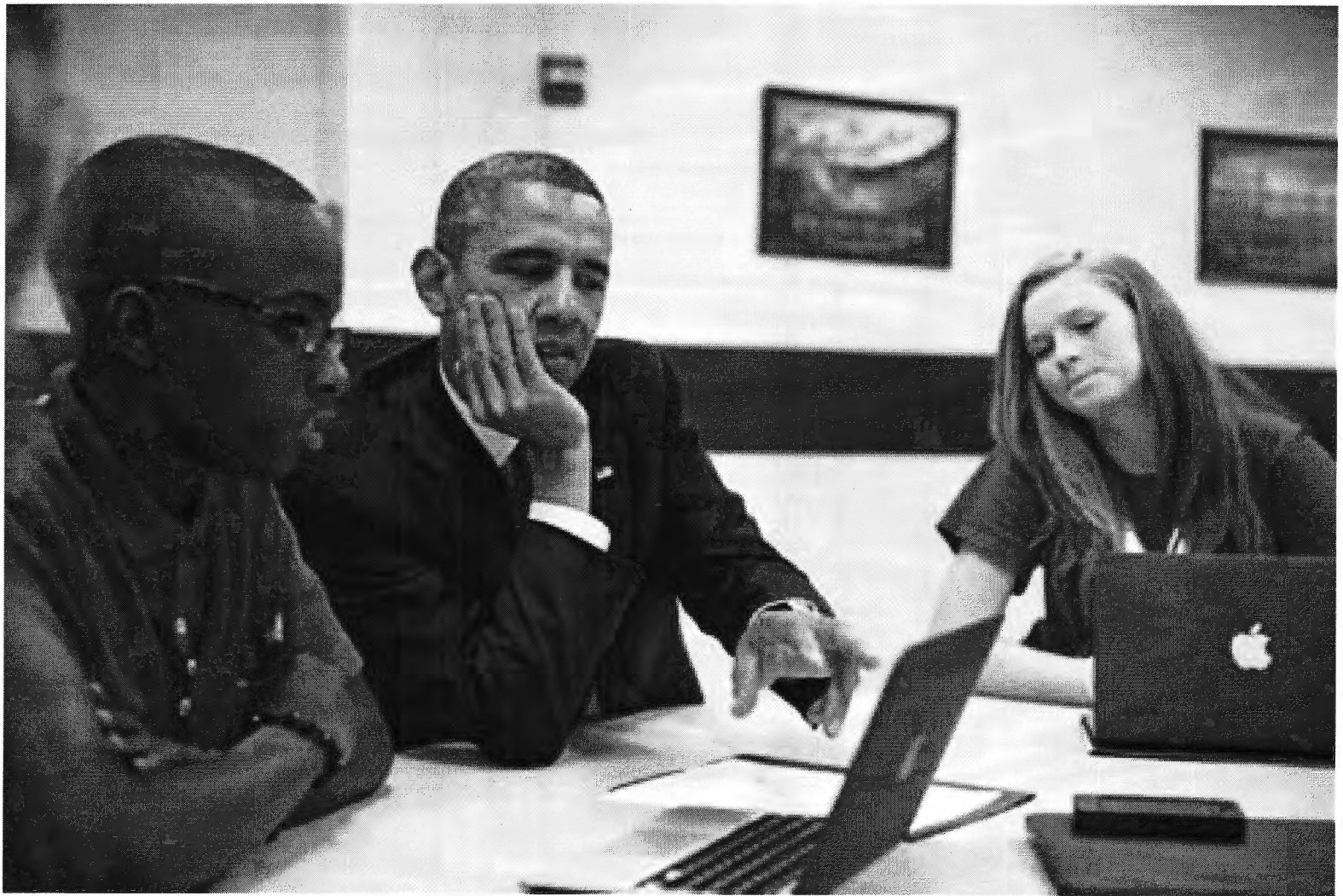
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**From:** Will Patrick (b) (6)  
**Sent:** Tuesday, February 12, 2013 8:26 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: SfX Class of 2013: Thanks for everything

Good luck with SOTU tonight!

On Tue, Feb 12, 2013 at 4:40 PM, Dorgelo, Cristin (b) (6) wrote:

Will, Megan, Astro, Karishma, Obi:

Sincere thanks again for including me in last week's inspiring Solve for X event. Great gathering of minds and some fantastic talks (in particular, I thought Saul, Shawn, Andras, Bill, Wael, Geena, and Steve knocked their talks out of the park). I've shared the videos and the new Solve for X site with many of my White House OSTP colleagues already.

I look forward to collaborating again with your fantastic team as we move closer to a White House Grand Challenges event – I'll let you know that event date as soon as we know it here.

All best,

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Will Patrick [mailto:(b) (6)]

**Sent:** Monday, February 11, 2013 6:39 PM

**To:** (b) (6) Andras Forgacs; Shawn Douglas; Prashant K. Jain; Peter Diamandis; Steve Jurvetson; (b) (6) Ehsan Afshari; Austen Heinz; Mir Imran; Catteruccia, Dr Flaminia; Anna Patterson; Padmasree Warrior (pwarrior); Chase, Charles; Vinod Khosla; Catherine Mohr; Jeff Surma; Geena Davis; O'Sullivan, Meghan; Nicholas Negroponte; Molly Morse; Marc Andreessen; (b) (6) (b) (6) Dorgelo, Cristin; (b) (6) Karishma Shah; Cady Coleman; Natalie Jeremijenko; (b) (6) Wael Ghonim; Bill Gross (b) (6) Black, Keith, L., M.D.; Regina Dugan; Cathy Zoi; Yoky matsuoka; Hermann Hauser; Rob Nail; Sergey Brin; (b) (6)  
**Cc:** Megan Smith; Obi Felten; Astro Teller; Kathy Cooper; Will Patrick; Rodney Brooks

**Subject:** SfX Class of 2013: Thanks for everything

SfX Class of 2013:

What an amazing three days. Thank you so much for joining us and being a part of our community. I feel very lucky to spend a portion of my day job helping to put this group together. As a young person, I feel awed by your intelligence & passion and inspired to do ever bigger and crazier things. Thank you for that!

A few things I wanted to share with you.

1. We announced the 2013 event and our new website ( [www.solveforx.com](http://www.solveforx.com) ) & partnerships this morning on the official Google [blog](#) (which includes the 'moonshot thinking' video).
2. We literally just pushed (most) of the talks public. Here are the links:
  - o [Astro & Megan](#) open Solve for X [will be [here](#)]
  - o [Peter & Eric](#) on asteroid mining
  - o [Eric's](#) introduction
  - o [Rodney](#) on american manufacturing
  - o [Shawn](#) on Targeted Therapeutics
  - o [Charles](#) on compact fusion
  - o [Danielle](#) on economical energy storage
  - o [Andras](#) on sustainable, scalable meat
  - o [Keith](#) on Alzheimer's diagnostics
  - o [Sergey](#) on taking moonshots & the value of failing
  - o Geena on gender inequality in media
  - o [Austen](#) on democratizing creation
  - o [Flaminia](#) on malaria eradication
  - o [Prashant](#) on optical computing
  - o [Bill](#) on solar cheaper than natural gas
  - o [Saul](#) on inflatable robotics
  - o [Molly](#) on replacing plastic
  - o [Ehsan](#) on low-cost terahertz

- Jeff on municipal waste to energy
  - Natalie on xDrones
  - Steve Jurvetson on the tech-accelerated rich poor gap [will be here]
3. We've started getting some press coverage (TechCrunch, Verge, Mashable). We'd love your help with creating more buzz buzz buzz. For social media, try using #solveforx. If your company / organization would like to do any press, feel free to utilize the blog post as a starting point. I can also put you in touch with our comms team here at Google[x].
  4. Check out Astro's op-ed in Wired.
  5. We're looking for feedback! We'll send out a feedback form in the next couple days.
  6. We're already searching for the next batch of moonshots for SfX 2014. What did we miss? Who should we be talking to? What moonshot idea should be represented on our stage?

Finally, the biggest outcomes of SfX 2012 came from the relationships created at the event ... I expect this year to be no different. Everyone who attended is on this email; don't be a stranger! Reach out to your fellow participants and continue the dialogue. Of course, you're more than welcome to reach out to me and anyone else on the Google[x] team (see cc'd list) for any reason.

Talk soon!

Cheers,

Will (on behalf of Astro, Megan and the rest of the SfX crew)

---

**From:** Dorgelo, Cristin  
**Sent:** Wednesday, July 10, 2013 7:36 PM  
**To:** RAMSEY, SARAH R. (HQ-NA000); (b) (6)  
**Cc:** (b) (6) (b) (6)  
(b) (6) WORLEY, LAUREN B. (HQ-NA000); Larson, Phil;  
(b) (6) (b) (6) (b) (6)  
**Subject:** RE: Maker Camp Hangout in July

Tomorrow 3-3:30 EDT would work for me. Google team?

**From:** RAMSEY, SARAH R. (HQ-NA000) [mailto: (b) (6)]  
**Sent:** Wednesday, July 10, 2013 5:36 PM  
**To:** (b) (6)  
**Cc:** Dorgelo, Cristin; (b) (6) (b) (6) (b) (6) WORLEY, LAUREN B. (HQ-NA000); Larson, Phil; (b) (6) (b) (6) (b) (6)  
**Subject:** Re: Maker Camp Hangout in July

I'm available tomorrow between 1030 and 2, and then after 3.

---

**From:** Kyle Monson [mailto: (b) (6)]  
**Sent:** Wednesday, July 10, 2013 05:29 PM  
**To:** RAMSEY, SARAH R. (HQ-NA000)  
**Cc:** Dorgelo, Cristin (b) (6) George Ivanov (b) (6) Tom Critchlow  
(b) (6) Lorraine Yurshansky (b) (6) WORLEY, LAUREN B. (HQ-NA000);  
Larson, Phil (b) (6) Ali Schippers (b) (6) Tara Yellen  
(b) (6) Josanna Lewin (b) (6)  
**Subject:** Re: Maker Camp Hangout in July

Hey all, adding one more to this thread...Josanna from Pixel Corps, our production vendor for high -profile Hangouts. They're great, and have done a lot of work with both the White House and NASA.

Also, if there's a time when we can all connect in the next day or two, let us know and we'll make it happen!

On Wed, Jul 10, 2013 at 8:24 AM, Kyle Monson (b) (6) wrote:  
This all sounds perfect! Let's plan on the 19th then. The Hangout is at 2pm Eastern, so we'll need to be up and testing around 1.

I'm adding Ali and Tara, our producers from Google and Make, respectively. If we can all jump on a call this week, that'd be ideal. We'll accomodate your schedule, Cristin and Sarah, if you have 30 mins free between now and Friday.

Kyle

On Wed, Jul 10, 2013 at 7:22 AM, RAMSEY, SARAH R. (HQ-NA000) (b) (6) wrote:  
Hi everyone,



This is going to be a great event. We're good for the 19th, just need a time. Jenn Gustetic will be the NASA person on the Hangout. As far as props go – I'll see if we can get some 3D -printed asteroids and we have some banners for a backdrop as well.

No other questions right now, just let us know what else we can do!

Sarah Becky

--

Sarah Ramsey  
Special Assistant to the Associate Administrator  
Office of Communications  
NASA Headquarters

(b) (6) (o)

(b) (6) (m)

(b) (6)

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**From:** <Dorgelo>, Cristin (b) (6)

**Date:** Wednesday, July 10, 2013 10:11 AM

**To:** Kyle Monson (b) (6)

**Cc:** George Ivanov (b) (6) Tom Critchlow (b) (6) Lorraine Yurshansky

(b) (6) LAUREN WORLEY (b) (6) ODIN (b) (6) "Phillip

P. Larson (b) (6) (b) (6)

**Subject:** RE: Maker Camp Hangout in July

Hi Kyle and team:

I've copied Sarah Becky Ramsey and Lauren Worley from NASA Comms and Phil Larson who works on the space portfolio here at White House OSTP. We're all super excited about the Maker Camp Hangout about the Asteroid Grand Challenge and Grand Challenges more broadly.

Updates:

1) We're good with the 19<sup>th</sup> but would like to lock in specific timing. What time of day would you propose (I'm free after noon EDT)?

2) We'd like to have Jenn Gustetic, NASA's Prizes and Challenges Program Executive, join me for the hangout. Jenn's fantastic, and can give more detail on the Asteroid Challenge, while I can give the broader context for Grand Challenges more generally.

Given that, should we get a call set to plan details of the hangout?

NASA: What other questions do you have for Google at this point? Also, NASA, you might want to brainstorm any visual props that we could have on hand.

By the way, if you want any background on the Asteroid Grand Challenge or Asteroids, see:

<http://www.whitehouse.gov/blog/2013/05/28/we-geeks-asteroids>

[http://www.nasa.gov/mission\\_pages/asteroids/initiative/index.html#.Ud1qsPmyBjQ](http://www.nasa.gov/mission_pages/asteroids/initiative/index.html#.Ud1qsPmyBjQ)

This is going to be great!

Cristin

**From:** Kyle Monson [mailto:(b) (6)]  
**Sent:** Wednesday, July 10, 2013 2:32 AM  
**To:** Dorgelo, Cristin  
**Cc:** George Ivanov; Tom Critchlow; Lorraine Yurshansky  
**Subject:** Re: Maker Camp Hangout in July

Hi Cristin, thanks so much for getting back to us. Question for you: we're taking a Hangout Field Trip to NASA Ames SpaceShop on Friday the 19th...any chance that date would work for you? That way, we can have an epic NASA + White House space day at Maker Camp.

It'd be really cool, and give us a bit more time to get the review done. But let us know if the date change messes things up on your end and we'll go back to the 15th.

Thanks!

Kyle

On Tue, Jul 9, 2013 at 1:42 PM, Dorgelo, Cristin (b) (6) wrote:

Hi all:

SO sorry that I haven't gotten back to you yet, it's been super hectic with the 4<sup>th</sup> of July holiday thrown in and a few big events.

But review has continued to move forward over here. We're leaning towards doing this from NASA HQ and teaming me with a cool NASA person, likely the lead on the Asteroid Grand Challenge.

I expect to be able to loop you in with NASA comms to confirm things tonight or tomorrow.

Till soon – Cristin

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Tuesday, July 02, 2013 10:05 AM  
**To:** Dorgelo, Cristin  
**Cc:** Tom Critchlow; Kyle Monson; Lorraine Yurshansky  
**Subject:** Re: Maker Camp Hangout in July

Hello Cristin,

Just refreshing this thread ahead of everyone's vacations. At this stage, July 15th still looks great on our end and we are looking to finalize the schedule for that week.

In addition, have you received any feedback from the Office of Digital Strategy or NASA comms? We would be happy to provide them with any additional information that might be needed.

Thank you for your help and we look forward to hearing from you soon.

Sincerely,

George

On Tue, Jun 25, 2013 at 5:01 PM, Tom Critchlow (b) (6) wrote:

Hi Cristin,

Apologies for the delay. I wasn't able to use the submit feature in the PDF but please see attached form with our responses.

Thanks

Tom

On Thu, Jun 20, 2013 at 10:01 AM, Dorgelo, Cristin (b) (6) wrote:

Thanks! I'll bounce this off of our digital strategy & NASA comms teams here.

I've attached the form I'll need completed & returned to me.

We have an initial preference for 7/15, BTW, due to some communications activities later in the week.

Cristin

**From:** Kyle Monson [mailto:(b) (6)]  
**Sent:** Wednesday, June 19, 2013 5:28 PM  
**To:** Dorgelo, Cristin; George Ivanov; Lorraine Yurshansky; Tom Critchlow  
**Subject:** Maker Camp Hangout in July

Hi Cristin, based on our conversation today, here's our recommendation for the Maker Camp Hangout in July. Very excited about this opportunity!

### **The Asteroid Challenge: Calling All Young Makers**

*A 45-minute Hangout with Cristin Dorgelo during Maker Camp's "Create the Future" week.*

July 15th or 17th, early afternoon (ideally 2pm Eastern)

#### **Basic Idea:**

Cristin explains the Asteroid Challenge to a live audience of young Maker Campers, with a show -and-tell session where she shows off a chunk of asteroid and some NASA hardware. Could also include video footage or teaser video for Asteroid Challenge or Grand Challenges. Make will supply an interested group of participants for the Hangout, along with any Cristin's team might suggest.

Cristin also shares info about the Grand Challenges program, her own background, and how makers can get involved in big ideas.

Ideally, Cristin also has a simple, space -related project to build with the kids, so she's doing something with her hands while chatting. We'll come up with some possibilities.

We'll also tease the "Field Trip Friday" to NASA Ames "SpaceShop" later that week.

#### **Teaser Campaign**

Kicks off a few days in advance:

We'll challenge the campers to post their own asteroid ideas to Maker Camp's Google+ Community...could be photos, illustrations, GIFs, videos. The best/most popular ideas will get shared with Cristin on the Hangout.

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Kyle Monson	Creative Lab	(b) (6)		(b) (6)
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Tom Critchlow | Creative Lab (b) (6) | 9177160741

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George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

--

Kyle Monson | Creative Lab | (b) (6) | (b) (6)

--

Kyle Monson | Creative Lab | (b) (6) | (b) (6)

--

Kyle Monson | Creative Lab | (b) (6) | (b) (6)

---

**From:** Dorgelo, Cristin  
**Sent:** Thursday, July 11, 2013 1:23 PM  
**To:** 'Ali Schippers'  
**Subject:** Accepted: Updated Invitation: Maker Camp / NASA @ Thu Jul 11, 2013 3pm - 3:50pm  
(b) (6)

I will only be able to stay until 3:30

---

**From:** Dorgelo, Cristin  
**Sent:** Wednesday, July 10, 2013 8:30 PM  
**To:** (b) (6)  
**Subject:** Accepted: Updated Invitation: Maker Camp / NASA @ Thu Jul 11, 2013 3pm - 3:50pm  
(b) (6)





---

**From:** Dorgelo, Cristin  
**Sent:** Monday, July 15, 2013 11:43 AM  
**To:** Kyle Monson; RAMSEY, SARAH R. (HQ-NA000)  
**Cc:** George Ivanov; Tom Critchlow; Lorraine Yurshansky; WORLEY, LAUREN B. (HQ-NA000); Larson, Phil; Ali Schippers; Tara Yellen (b) (6)  
**Subject:** GUSTETIC, JENNIFER L. (HQ-UA000) (b) (6)  
RE: Maker Camp Hangout in July

Checking in on status of a run of show for Friday. Is Kyle preparing that for us?

Thanks!

Cristin

**From:** Kyle Monson [mailto: (b) (6)]  
**Sent:** Wednesday, July 10, 2013 11:25 AM  
**To:** RAMSEY, SARAH R. (HQ-NA000)  
**Cc:** Dorgelo, Cristin; George Ivanov; Tom Critchlow; Lorraine Yurshansky; WORLEY, LAUREN B. (HQ -NA000); Larson, Phil; Ali Schippers; Tara Yellen  
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Sarah Becky

--

Sarah Ramsey  
Special Assistant to the Associate Administrator  
Office of Communications  
NASA Headquarters

(b) (6) (o)

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**Subject:** Maker Camp Hangout in July

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--

Kyle Monson	Creative Lab	(b) (6)		(b) (6)
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Tom Critchlow	Creative Lab	(b) (6)		9177160741
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George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6)

(b) (6)

--

Kyle Monson |

Creative Lab |

(b) (6)

(b) (6)

--

Kyle Monson |

Creative Lab |

(b) (6)

(b) (6)



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**From:** Hal Varian (b) (6)  
**Sent:** Wednesday, February 13, 2013 10:01 AM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non-majors

OK I'm at caribou

On Feb 13, 2013 9:54 AM, "Kalil, Thomas A." (b) (6) wrote:  
Will be a few minutes late.

---

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 08:20 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: undergrad statistics resource for non -majors

I plan on seeing you at 10 AM at Caribou Coffee – 17<sup>th</sup> and Penn.

My cell phone i (b) (6)

On Mon, Jan 21, 2013 at 5:25 PM, Hal Varian (b) (6) wrote:  
That's the same metro as Google, so should be easy. My cell i (b) (6)

On Mon, Jan 21, 2013 at 2:20 PM, Kalil, Thomas A. (b) (6) wrote:

Sounds good. See you at Caribou – 17<sup>th</sup> and Penn. Near Farragut West – 17<sup>th</sup> Street exit.

My cell i (b) (6)

**From:** Hal Varian [mailto:(b) (6)]  
**Sent:** Monday, January 21, 2013 5:18 PM  
**To:** Kalil, Thomas A.

**Subject:** Re: undergrad statistics resource for non -majors

7 AM body time? I should be able to communicate after a few cups of coffee.

What metro stop?

On Mon, Jan 21, 2013 at 11:49 AM, Kalil, Thom as A. (b) (6) wrote:

How about 10 am on the 13<sup>th</sup> – is that slightly more civilized?

**From:** Hal Varian [mailto:(b) (6)]

**Sent:** Sunday, January 20, 2013 1:39 AM

**To:** Kalil, Thomas A.

**Subject:** Re: undergrad statistics resource for non -majors

Sure, that will work.

On Sat, Jan 19, 2013 at 5:42 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Hal:

Feb 12<sup>th</sup> is SOTU, so we are usually busy then.

Coffee on Feb 13<sup>th</sup>?

Best,

Tom

**From:** Hal Varian [mailto:(b) (6)]

**Sent:** Saturday, January 19, 2013 8:38 PM

**To:** Kalil, Thomas A.

**Subject:** undergrad statistics resource for non -majors

<http://www.dartmouth.edu/~chance/index.html>

Hey, Tom, what are your plans. I'm going to be at Google DC, Feb 12-13. Want to come to a group dinner there on Feb 12?

**From:** Edelman, R. David  
**Sent:** Tuesday, July 16, 2013 12:37 AM  
**To:** (b) (6)  
**Subject:** Chat on Thursday

Dear Kent,

I hope you've been well the last few weeks since I saw you last in Washington.

As it happens, I'm going to be in MV on Thursday morning, meeting with the education and Nexus teams on the President's ConnectED broadband in schools initiative. Given proximity and the seemingly endless areas for discussion between my portfolio and yours, I wanted to see if you might be free for breakfast or lunch that day.

My meeting is at 10, so before or after, at your convenience, might work well should you be free. Of course, given the notice, I certainly understand if your schedule doesn't allow. Either way look forward to hearing from you.

All the best,  
-David

<><><><><><><><><>

R. David Edelman

Senior Advisor for Internet, Innovation & Privacy  
National Economic Council | OSTP | The White House

ph: (202 (b) (6) | asst: (202 (b) (6) (b) (6)

---

**From:** Dorgelo, Cristin  
**Sent:** Tuesday, July 16, 2013 8:34 PM  
**To:** 'Tara Yellen'; 'Matthew Reyes'; 'Clark, Coral'; 'Ali Schippers'; 'Shannon Cooper'; 'Alex Lindsay'; 'Tom Critchlow'; 'Kyle Monson'  
**Cc:** 'corecamp'  
**Subject:** RE: OSTP / NASA ROS

Can you send these as email attachments to me and the other White House & NASA folks on the previous threads for this event?

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

-----Original Message-----

**From:** Tara Yellen (b) (6)  
**Sent:** Tuesday, July 16, 2013 08:29 PM Eastern Standard Time  
**To:** Dorgelo, Cristin; Matthew Reyes; Clark, Coral; Ali Schippers; Shannon Cooper; Alex Lindsay; Tom Critchlow; Kyle Monson  
**Cc:** corecamp  
**Subject:** OSTP / NASA ROS

Hi everyone,

Here is the updated ROS for the OSTP & NASA field trip, as well as our production & content notes re: NASA.

Please let us know if you have any questions.

Best,  
Tara

--  
Tara Yellen  
Maker Camp Project Manager  
(b) (6)  
Cell (b) (6)  
Maker Camp  
Make Magazine

---

**From:** Dorgelo, Cristin  
**Sent:** Tuesday, July 16, 2013 6:25 PM  
**To:** Ali Schippers; Alex Lindsay; George Ivanov; Josanna Lewin; Kyle Monson; LAUREN B. WORLEY (HQ-NA000); Michelle Hlubinka; SARAH R. RAMSEY (HQ-NA000); Shannon Cooper; Sherry Huss; Tara Yellen; Tom Critchlow; Larson, Phil; Shannon Cooper; Matthew Reyes; Jessica Culler; Vickie Welch; Shinghi Detlefsen; Whitney Diehl; Emmanuel Mota  
**Cc:** Lorraine Yurshansky  
**Subject:** RE: [MAKER CAMP] NASA Field Trip, Friday 7/19

I am checking in on status of Run of Show. Can we expect this today?

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

**From:** Ali Schippers [mailto:(b) (6)]  
**Sent:** Monday, July 15, 2013 5:38 PM  
**To:** Alex Lindsay; George Ivanov; Josanna Lewin; Kyle Monson; LAUREN B. WORLEY (HQ -NA000); Michelle Hlubinka; SARAH R. RAMSEY (HQ-NA000); Shannon Cooper; Sherry Huss; Tara Yellen; Tom Critchlow; Dorgelo, Cristin; Larson, Phil; Shannon Cooper; Matthew Reyes; Jessica Culler; Vickie Welch; Shinghi Detlefsen; Whitney Diehl; Emmanuel Mota  
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**Subject:** Re: [MAKER CAMP] NASA Field Trip, Friday 7/19

Hi All,

Just a quick update. Em, from Make, will follow -up tomorrow with the Run of Show.

Thanks!

Best,  
Ali

On Mon, Jul 15, 2013 at 11:42 AM, Ali Schippers (b) (6) wrote:  
Hi All,

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Please feel free to reach out to me directly with any questions, thanks!

Best,  
Ali

ps, please let me know if I've let anyone off this chain and I will add them to the update.

--

**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

--

**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

---

**From:** Dorgelo, Cristin  
**Sent:** Wednesday, July 17, 2013 10:03 AM  
**To:** RAMSEY, SARAH R. (HQ-NA000); (b) (6)  
**Cc:** (b) (6) (b) (6)  
(b) (6) (b) (6) (b) (6)  
WORLEY, LAUREN B. (HQ-NA000); (b) (6)  
(b) (6) (b) (6) (b) (6)  
(b) (6) Larson, Phil; (b) (6) CULLER, JESSICA  
S. (ARC-VC); (b) (6) (b) (6)  
(b) (6) (b) (6) (b) (6)  
(b) (6) Jenn Gustetic (HQ-UA020)  
**Subject:** RE: [MAKER CAMP] NASA Field Trip, Friday 7/19

I can't do 4:30 today, but perhaps Phil Larson and or Sarah Becky can cover and report back.

RE: visual content: I included in the suggested revised ROS a video link with a Pres Obama clip on Grand Challenges, in case we are able to cut to that. And I can bring the piece of the Asteroid Vesta that we have at OSTP (thanks to NASA) that we can check out.

**From:** RAMSEY, SARAH R. (HQ-NA000) [mailto:(b) (6)]  
**Sent:** Wednesday, July 17, 2013 9:55 AM  
**To:** (b) (6) Dorgelo, Cristin  
**Cc:** (b) (6) (b) (6) (b) (6) (b) (6)  
(b) (6) WORLEY, LAUREN B. (HQ-NA000); (b) (6)  
(b) (6) (b) (6) (b) (6) (b) (6) Larson,  
Phil; (b) (6) CULLER, JESSICA S. (ARC-VC); (b) (6) (b) (6)  
(b) (6) (b) (6) (b) (6) (b) (6) Jenn Gustetic (HQ-  
UA020)  
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NASA HQ can do 430pm ET. Jenn isn't in today, and so won't be on the call, but I'll fill her in.

As far as visuals: We have a few static props we can show, but nothing by way of demonstration for the asteroid grand challenge. Understand the need for the event to be visually dynamic, and we'll do our best, but we don't have "hands on" things to show right now.

Talk to you all at 430,  
Sarah

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**Cc:** Matthew Reyes (b) (6) Alex Lindsay (b) (6) George Ivanov  
(b) (6) Josanna Lewin (b) (6) Kyle Monson (b) (6)  
WORLEY, LAUREN B. (HQ-NA000); Michelle Hlubinka (b) (6) RAMSEY, SARAH R. (HQ-NA000);  
Shannon Cooper (b) (6) Sherry Huss (b) (6) Tara Yellen  
(b) (6) Tom Critchlow (b) (6) Larson, Phil



(b) (6) Shannon Cooper (b) (6) CULLER, JESSICA S. (ARC-VC); Vickie Welch (b) (6) Shinghi Detlefsen (b) (6) Whitney Diehl  
(b) (6) Emmanuel Mota (b) (6) Lorraine Yurshansky (b) (6)  
Erik Katz (b) (6) Jenn Gustetic (HQ-UA020)  
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That said, just wanted to loop back on your thoughts on how we can keep the HOA tactile and visually dynamic. The content is super interesting, but as discussed on our initial call, are there props, demonstrations etc we can use to keep it visually interesting as well?

**Also, would 1:30 PT / 4:30 ET work for everyone for a call? Please let me know, as I know we have many schedules to accommodate.**

Best,  
Ali

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Cristin

Cristin Dorgelo

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b)(6)

(b)(6)

**From:** Matthew Reyes [mailto:(b)(6)]

**Sent:** Wednesday, July 17, 2013 6:04 AM

**To:** Ali Schippers

**Cc:** Dorgelo, Cristin; Alex Lindsay; George Ivanov; Josanna Lewin; Kyle Monson; LAUREN B. WORLEY (HQ -NA000); Michelle Hlubinka; SARAH R. RAMSEY (HQ-NA000); Shannon Cooper; Sherry Huss; Tara Yellen; Tom Critchlow; Larson, Phil; Shannon Cooper; Jessica Culler; Vickie Welch; Shinghi Detlefsen; Whitney Diehl; Emmanuel Mota; Lorraine Yurshansky; Erik Katz

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Matt

Matthew F. Reyes  
Exploration Solutions, Inc.  
[twitter.com/motorbikematt](https://twitter.com/motorbikematt)

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Office of Science and Technology Policy

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(b) (6)

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**Subject:** Re: [MAKER CAMP] NASA Field Trip, Friday 7/19

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ps, please let me know if I've let anyone off this chain and I will add them to the update.

--

**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

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---

**From:** Dorgelo, Cristin  
**Sent:** Wednesday, July 17, 2013 10:18 AM  
**To:** Ali Schippers  
**Subject:** RE: [MAKER CAMP] NASA Field Trip, Friday 7/19

Hi Ali: Just a heads up that those of us here at the White House can't access Google Docs (which is why I asked for attachments and sent around a redline). Sorry! Cristin

---

**From:** RAMSEY, SARAH R. (HQ-NA000) [mailto: (b) (6)]  
**Sent:** Wednesday, July 17, 2013 10:16 AM  
**To:** Ali Schippers; Dorgelo, Cristin  
**Cc:** (b) (6) (b) (6) (b) (6) (b) (6)  
(b) (6) WORLEY, LAUREN B. (HQ-NA000) (b) (6)  
(b) (6) (b) (6) (b) (6) (b) (6) Larson,  
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(b) (6) (b) (6) (b) (6) (b) (6) Jenn Gustetic (HQ-UA020)  
**Subject:** Re: [MAKER CAMP] NASA Field Trip, Friday 7/19

Hi Ali,

We'll just have one camera. Cristin and Jenn will be on the same camera, and we'll have a banner backdrop for them.

Sarah

---

**From:** Ali Schippers (b) (6)  
**Date:** Wednesday, July 17, 2013 10:07 AM  
**To:** "Dorgelo, Cristin" (b) (6)  
**Cc:** ODIN (b) (6) (b) (6) (b) (6)  
(b) (6) (b) (6) (b) (6) (b) (6)  
(b) (6) (b) (6) (b) (6) (b) (6) LAUREN  
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(b) (6) (b) (6) (b) (6) (b) (6)  
"Phillip P. Larson (b) (6) (b) (6) (b) (6)  
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(b) (6) (b) (6) (b) (6) (b) (6)  
(b) (6)  
**Subject:** Re: [MAKER CAMP] NASA Field Trip, Friday 7/19

Hi Cristin/Sarah,

Can you please confirm the number of shooting zones (e.g camera angles, set -up etc) for your proposed ROS.

I've updated the current Make ROS to reflect your proposed changes. Please adjust here so we're all working off the same document.

Thank you!

Best,  
Ali

On Wed, Jul 17, 2013 at 10:04 AM, Ali Schippers (b) (6) wrote:  
Great, thanks Cristin. Keep us posted.

Best,  
Ali

On Wed, Jul 17, 2013 at 10:03 AM, Dorgelo, Cristin (b) (6) wrote:

I can't do 4:30 today, but perhaps Phil Larson and or Sarah Becky can cover and report back.

RE: visual content: I included in the suggested revised ROS a video link with a Pres Obama clip on Grand Challenges, in case we are able to cut to that. And I can bring the piece of the Asteroid Vesta that we have at OSTP (thanks to NASA) that we can check out.

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**Cc:** (b) (6) (b) (6) (b) (6) (b) (6)  
(b) (6) WORLEY, LAUREN B. (HQ-NA000); (b) (6)  
(b) (6) (b) (6) (b) (6) (b) (6) Larson,  
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WORLEY, LAUREN B. (HQ-NA000); Michelle Hlubinka (b) (6); RAMSEY, SARAH R. (HQ-NA000);  
Shannon Cooper (b) (6); Sherry Huss (b) (6); Tara Yellen (b) (6); Tom Critchlow (b) (6); Larson, Phil (b) (6);  
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**Subject:** RE: [MAKER CAMP] NASA Field Trip, Friday 7/19  
**Attachments:** NASAROS719\_OSTPtracked.docx

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(b) (6)

(b) (6)

**From:** Ali Schippers [mailto:(b) (6)]

**Sent:** Monday, July 15, 2013 5:38 PM

**To:** Alex Lindsay; George Ivanov; Josanna Lewin; Kyle Monson; LAUREN B. WORLEY (HQ -NA000); Michelle Hlubinka; SARAH R. RAMSEY (HQ -NA000); Shannon Cooper; Sherry Huss; Tara Yellen; Tom Critchlow; Dorgelo, Cristin; Larson, Phil; Shannon Cooper; Matthew Reyes; Jes sica Culler; Vickie Welch; Shinghi Detlefsen; Whitney Diehl; Emmanuel Mota

**Cc:** Lorraine Yurshansky

**Subject:** Re: [MAKER CAMP] NASA Field Trip, Friday 7/19

Hi All,

Just a quick update. Em, from Make, will follow -up tomorrow with the Run of Show.

Thanks!

Best,

Ali

On Mon, Jul 15, 2013 at 11:42 AM, Ali Schippers (b) (6) wrote:

Hi All,

Tom, Kyle and I are regrouping with MAKE today on our NASA Field Trip schedule for this Friday, 7/19. I'll regroup with everyone by EOB with an update, work in progress Run of Show and any other relevant information.

Please feel free to reach out to me directly with any questions, thanks!

Best,



Ali

ps, please let me know if I've let anyone off this chain and I will add them to the update.

--  
**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

--  
**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

--  
**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

# Maker Camp

Friday, July 19th 11am Pacific / 2pm Eastern

Visit to NASA Headquarters and NASA Ames Research Center, with the White House Office of Science and Technology Policy (OSTP)

## Background

Maker Camp is a free, virtual DIY camp for teens on Google+. The six -week program runs from July 8 to August 16, 2013, and we'll be building 30 projects, and going on 6 epic "Virtual Fieldtrips" Maker Camp is run by MAKE magazine, with support from Google, and has around 1.3M followers on Google+. Our audience loves all kinds of projects they can build at home, and we've managed to line up an incredible roster of Field Trips to places like NASA, Pixar, Google X, and Imogen Heap's recording studio.

## INTRO

- 2-3 mins w/ Em

NASA Headquarters, with White House OSTP (15 mins total)

- FEATURES:
  - Intro of White House OSTP and Grand Challenges - 2 mins (Cristin Dorgelo)
  - Asteroid Grand Challenge - 2 mins (program explanation) (Jenn Gustetic)
  - Discussion about how the kids and the public can get involved with Grand Challenges like the Asteroid Grand Challenge (5 mins) (Cristin, Jenn, and Em)
  - Q & A - 8 mins
- LOCATIONS
  - Filming Zone 1 - TBD
  - Filming Zone 2 - TBD
- ORDER OF SHOOTING - TBD

ROLE MODEL CHAT - 7 mins (with Dorgelo and Gustetic)

- How did you get into the field?
- If kids want to work at OSTP or NASA, what's the education/process/background?

NASA AMES (30 mins total)

- FEATURED: CREATING THE FUTURE PROJECTS
  - CubeSats (PhoneSat, TechEdSat, MPACE)
  - 3D Printed Fuel Cells
  - Bio-Brick
  - Thermal Shielding and Carbon Fiber
  - Air Filtration for Livestock/Rats
  - Q&A
- LOCATIONS
  - Filming Zone 1 - SpaceShop, angle 1
  - Filming Zone 2 - SpaceShop, angle 2
- ORDER OF SHOOTING - TBD

ROLE MODEL CHAT - 7 mins

- How did you get into the field?
- If kids want to work at NASA, what's the education/process/background?

CLOSING/ INTRODUCTION OF RADIO SHACK WEEKEND PROJECT - 2 mins

RADIO SHACK WEEKEND PROJECT (6 Mins)

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**From:** Johanna Shelton (b) (6)  
**Sent:** Wednesday, February 13, 2013 11:46 AM  
**To:** Edelman, R. David  
**Subject:** Re: CFAA

we have a better idea. working it through with internal folks right now. will call u shortly

On Tue, Feb 12, 2013 at 4:47 PM, Edelman, R. David (b) (6) wrote:

Johanna,

I'm aware of him, but he hasn't published on the issue. If Google were allotted one person, that would be your nomination? I had heard that Pablo was engaged with the Hill on it.

-rD

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 3:54 PM  
**To:** Edelman, R. David  
**Subject:** CFAA

re participants in any discussions, you should start with Markham Erickson from the Internet Association - you know him right?

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

--

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---

**From:** Will Patrick (b) (6)  
**Sent:** Wednesday, February 13, 2013 12:32 PM  
**To:** Dorgelo, Cristin  
**Cc:** Astro Teller; Megan Smith (b) (6) (b) (6)  
**Subject:** Re: moonshot thinking in SOTU

Last night after he said that I thought, "10 times better, eh? Nice work Tom & Cristin" : )

Cheers,  
Will

On Wed, Feb 13, 2013 at 9:28 AM, Dorgelo, Cristin (b) (6) wrote:

Google X moonshot team:

I'm sure you caught this in last night's SOTU, but in case it comes in handy as you spread the word about moonshots & making things 10x better, this paragraph from the President's address last night speaks to his commitment to pursuing audacious, game-changing goals (aka Grand Challenges & Moonshots) and to investing in research and development. One of the examples, the [Brain Activity Map](#), is a Grand Challenge we've been developing with NIH/NINDS, neuroscientists, nanotechnologists, and private foundations.

"Now, if we want to make the best products, we also have to invest in the best ideas. Every dollar we invested to map the human genome returned \$140 to our economy -- every dollar. Today, our scientists are mapping the human brain to unlock the answers to Alzheimer's. They're developing drugs to regenerate damaged organs; devising new material to make batteries 10 times more powerful. Now is not the time to gut these job-creating investments in science and innovation. Now is the time to reach a level of research and development not seen since the height of the Space Race. We need to make those investments."

All best,

Cristin

Cristin Dorgelo

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Astro Teller [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 11:44 PM  
**To:** Dorgelo, Cristin  
**Cc:** Will Patrick; Megan Smith (b) (6) (b) (6)  
**Subject:** Re: SfX Class of 2013: Thanks for everything

Thanks for being part of the event, Cristin! It was great to have you there with us!

: )

Astro.

On Tue, Feb 12, 2013 at 4:40 PM, Dorgelo, Cristin (b) (6) wrote:

Will, Megan, Astro, Karishma, Obi:

Sincere thanks again for including me in last week's inspiring Solve for X event. Great gathering of minds and some fantastic talks (in particular, I thought Saul, Shawn, Andras, Bill, Wael, Geena, and Steve knocked their talks out of the park). I've shared the videos and the new Solve for X site with many of my White House OSTP colleagues already.

I look forward to collaborating again with your fantastic team as we move closer to a White House Grand Challenges event – I'll let you know that event date as soon as we know it here.

All best,

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Will Patrick [mailto:(b) (6)]

**Sent:** Monday, February 11, 2013 6:39 PM

**To** (b) (6) Andras Forgacs; Shawn Douglas; Prashant K. Jain; Peter Diamandis; Steve Jurvetson;  
(b) (6) Ehsan Afshari; Austen Heinz; Mir Imran; Catteruccia, Dr Flaminia; Anna Patterson; Padmasree  
Warrior (pwarrior); Chase, Charles; Vinod Khosla; Catherine Mohr; Jeff Surma; Geena Davis; O'Sullivan, Meghan; Nicholas  
Negroponte; Molly Morse; Marc Andreessen; (b) (6) (b) (6) Dorgelo, Cristin;  
(b) (6) Karishma Shah; Cady Coleman; Natalie Jeremijenko; (b) (6)  
Wael Ghonim; Bill Gross (b) (6) Black, Keith, L., M.D.; Regina Dugan; Cathy Zoi; Yoky matsuoaka;  
Hermann Hauser; Rob Nail; Sergey Brin (b) (6)  
**Cc:** Megan Smith; Obi Felten; Astro Teller; Kathy Cooper; Will Patrick; Rodney Brooks

**Subject:** SfX Class of 2013: Thanks for everything

SfX Class of 2013:

What an amazing three days. Thank you so much for joining us and being a part of our community. I feel very lucky to spend a portion of my day job helping to put this group together. As a young person, I feel awed by your intelligence & passion and inspired to do ever bigger and crazier things. Thank you for that!

A few things I wanted to share with you.

1. We announced the 2013 event and our new website ([www.solveforx.com](http://www.solveforx.com)) & partnerships this morning on the official Google [blog](#) (which includes the 'moonshot thinking' video).
2. We literally just pushed (most) of the talks public. Here are the links:
  - [Astro & Megan](#) open Solve for X [will be [here](#)]
  - [Peter & Eric](#) on asteroid mining
  - [Eric's](#) introduction
  - [Rodney](#) on american manufacturing
  - [Shawn](#) on Targeted Therapeutics
  - [Charles](#) on compact fusion
  - [Danielle](#) on economical energy storage
  - [Andras](#) on sustainable, scalable meat
  - [Keith](#) on Alzheimer's diagnostics
  - [Sergey](#) on taking moonshots & the value of failing
  - [Geena](#) on gender inequality in media
  - [Austen](#) on democratizing creation
  - [Flaminia](#) on malaria eradication
  - [Prashant](#) on optical computing
  - [Bill](#) on solar cheaper than natural gas
  - [Saul](#) on inflatable robotics
  - [Molly](#) on replacing plastic
  - [Ehsan](#) on low-cost terahertz
  - [Jeff](#) on municipal waste to energy
  - [Natalie](#) on xDrones
  - [Steve Jurvetson](#) on the tech-accelerated rich poor gap [will be [here](#)]
3. We've started getting some press coverage ([TechCrunch](#), [Verge](#), [Mashable](#)). We'd love your help with creating more buzz buzz buzz. For social media, try using #solveforx. If your company / organization would like to do any press, feel free to utilize the blog post as a starting point. I can also put you in touch with our comms team here at Google[x].
4. Check out Astro's [op-ed](#) in Wired.
5. We're looking for feedback! We'll send out a feedback form in the next couple days.
6. We're already searching for the next batch of moonshots for SfX 2014. What did we miss? Who should we be talking to? What moonshot idea should be represented on our stage?

Finally, the biggest outcomes of SfX 2012 came from the relationships created at the event ... I expect this year to be no different. Everyone who attended is on this email; don't be a stranger! Reach out to your fellow participants and continue the dialogue. Of course, you're more than welcome to reach out to me and anyone else on the Google[x] team (see cc'd list) for any reason.

Talk soon!

Cheers,

Will (on behalf of Astro, Megan and the rest of the SfX crew)



--

- Astro

---

**From:** Hal Varian (b) (6)  
**Sent:** Wednesday, February 13, 2013 11:21 AM  
**To:** Kalil, Thomas A.  
**Subject:** following up  
**Attachments:** Incentive Auction NPRM Comments 1-25-13 Combined FINAL.pdf

FCC's 3.5 GHz NPRM: FCC proposal for small cell networks

Incentive auction comments from Google -Microsoft attached

Morretti article: "Local Multipliers" **American Economic Review**, Papers and Proceedings, 100(2), 2010. [Paper]

Fostering Research on the Economic and Social Impacts of Information Technology (1998!): [http://www.nap.edu/openbook.php?record\\_id=6269](http://www.nap.edu/openbook.php?record_id=6269)

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of

Expanding the Economic and Innovation  
Opportunities of Spectrum Through Incentive  
Auctions

Docket No. 12-268

**COMMENTS OF GOOGLE INC. AND MICROSOFT CORPORATION**

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*Counsel for Google Inc. and Microsoft  
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January 25, 2013

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## I. INTRODUCTION AND SUMMARY.

The Commission's Notice of Public Rulemaking ("NPRM") finds that "usage of our wireless networks is skyrocketing, dramatically increasing demands on both licensed and unlicensed spectrum," and that "[m]eeting this challenge is essential to continuing U.S. leadership in technological innovation, growing our economy, and maintaining our global competitiveness."<sup>1</sup> Google and Microsoft agree. Our companies offer technologies that span the entire wireless economy—including mobile phones, tablets, mobile operating systems, cloud-based services, machine-to-machine services, maps, and gaming. These businesses depend on access to robust licensed services as well as access to robust unlicensed spectrum resources. One without the other simply will not allow U.S. businesses to meet accelerating consumer demand for wireless products and services.

Google and Microsoft therefore commend the Commission for recognizing the need for a balanced spectrum policy, and especially for the NPRM's commitment to designating substantial new sub-1-GHz unlicensed frequencies for broadband services and protecting access to the TV white spaces in the post-auction broadcast band. These comments describe how the FCC can achieve these goals.

Section II demonstrates that the Commission's commitment to expanding unlicensed spectrum designations is critical to U.S. economic growth and innovation. Section III explains

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<sup>1</sup> *Expanding the Economic and Innovation Opportunities of Spectrum through Incentive Auctions*, Notice of Proposed Rulemaking, 27 FCC Rcd. 12357, ¶ 1 (2012) ("NPRM"). Similarly, the National Broadband Plan states that "[i]n order to meet growing demand for wireless broadband services, and to ensure that America keeps pace with the global wireless revolution, 500 megahertz should be made newly available for mobile, fixed and unlicensed broadband use over the next 10 years . . . Ultimately, the cost of not securing enough spectrum may be higher prices, poorer service, lost productivity, loss of competitive advantage and untapped innovation." FCC, *Connecting America: The National Broadband Plan*, at § 5.8 (2010) ("Connecting America").

that the FCC can both free additional unlicensed spectrum and ensure adequate federal revenues for public safety needs and broadcaster relocation. Section IV outlines how the Commission can succeed in supporting unlicensed wireless innovation and investment by creating a band plan with new unlicensed designations that are large enough to support investment. Section V explains how the FCC can repack remaining broadcast licensees while protecting access to white space spectrum by consumers using unlicensed wireless devices. Section VI proposes how the Commission should advance its core policy of promoting intense and efficient use of 600 MHz spectral resources through rules related to wireless microphones.

**II. FREEING ADDITIONAL UNLICENSED SPECTRUM IN THE 600 MHz BAND IS CRITICAL TO U.S. ECONOMIC GROWTH, INNOVATION, AND THE EXPANSION OF BROADBAND AVAILABILITY.**

Commission action to both create new unlicensed wireless designations in the 600 MHz band and protect remaining white spaces in the broadcast band will promote economic growth, support innovation, and expand access to broadband. Additional unlicensed spectrum resources assuredly will produce these public interest benefits because: (1) the unlicensed wireless sector is huge and growing rapidly, (2) unlicensed wireless technologies already contribute many billions of dollars annually to the U.S. economy, (3) access to unlicensed spectrum allows licensed wireless and wireline broadband providers to increase the reach of their networks and improve network management, and (4) innovators and investors need substantial new sub-1-GHz unlicensed spectrum resources to address skyrocketing consumer demand, support the expansion of cellular offload, and network the millions of devices that will compose the coming Internet of Things.

**A. The Unlicensed Wireless Sector is Huge and Growing Rapidly.**

The Commission should be proud of the exceptional engine for economic growth and innovation it enabled through its unlicensed spectrum designations. In 1985, the FCC broke ground by enabling widespread communications uses in unlicensed spectrum.<sup>2</sup> Since that time the FCC has supported wireless technologies by designating additional licensed and unlicensed frequency bands as spectrum became available. For decades, this balanced approach has ensured consumers, innovators, and investors access to higher-barrier-to-entry licensed spectrum, as well as to low-barrier-to-entry unlicensed spectrum, each of which plays an important role in the overall wireless ecosystem. This strategy has led to an explosion of consumer unlicensed device adoption and the deployment of an important and growing set of unlicensed applications that are contributing billions to the national economy, as described below.<sup>3</sup>

The Commission's commitment to providing unlicensed spectrum resources allowed innovators to invest in research and development that produced thousands of new unlicensed

---

<sup>2</sup> See generally *Authorization of Spread Spectrum & Other Wideband Emissions Not Presently Provided for in the FCC Rules & Regulations*, First Report and Order, 101 FCC 2d 419 (1985) ("*ISM Band Order*") (authorizing the use of spread spectrum technology to enable communications uses in so-called "junk band" spectrum previously used only for non-communications industrial uses).

<sup>3</sup> The expansion of unlicensed spectrum has meant that unlicensed devices are freed from the requirement to make high-cost investment in licensing, see Kenneth R. Carter, Ahmed Lahjouji, & Neal McNeil, FCC, *Unlicensed and Unshackled: A Joint OSP-OET White Paper on Unlicensed Devices and Their Regulatory Issues*, OSP Working Paper Series, at 5 (May 2003) ("OSP Paper"), and that innovators can therefore develop "low-power consumer devices such as cordless phones, where the cost of coordination and licensing would probably far exceed the cost of the equipment." Jon M. Peha, Carnegie Mellon University, Carnegie Institute of Technology Department of Engineering and Public Policy, Paper 5, *Sharing Spectrum through Spectrum Policy Reform and Cognitive Radio*, at 6 (Jan. 2008).



technologies each year, leading to rapid consumer adoption.<sup>4</sup> Wi-Fi enabled devices are the best-known class of such technologies. In 2005, “tens of millions” of Wi-Fi devices were sold globally.<sup>5</sup> By 2011, the market had increased dramatically, with 800 to 900 million devices sold globally and with at least 150 million of those sales occurring in the United States.<sup>6</sup> Wi-Fi device sales figures have seen double-digit growth in recent years, with growth in 2011 estimated to be between 25 and 30 percent.<sup>7</sup> The sale of Wi-Fi routers alone “has sustained a compound average growth rate over 30 percent for almost a decade.”<sup>8</sup>

This boom in sales of Wi-Fi enabled devices has been accompanied by a boom in Wi-Fi traffic. Wi-Fi today accounts for an estimated 80 percent of all traffic from smartphones and

---

<sup>4</sup> Because unlicensed devices are “free from the burden of normal delays associated with the licensing process,” and the use of the unlicensed spectrum itself is free, manufacturers can design equipment to “fill a unique need [that can] be introduced into the marketplace rather quickly.” And they have done so, creating devices ranging from remote control toys to wireless routers to networked home thermostats. OSP Paper; *see also* Richard Thanki, *The Economic Value Generated By Current And Future Allocations Of Unlicensed Spectrum*, Final Report at 36 (Sept. 2009) (“Thanki 2009”) (citing Greg Raleigh as noting that “[i]n the cellular market things take longer: you’ve got the service providers who pay for the spectrum, the spectrum is licensed so in order to operate a piece of hardware you have to have a license from the carrier, and the carriers work with very large equipment providers who develop equipment over a longer period of time than the short cycles we have in Wi-Fi.”).

<sup>5</sup> Mark Cooper, *Efficiency Gains and Consumer Benefits of Unlicensed Access to the Public Airwaves* at 7 (Jan. 2012) (“Cooper”) (citing *Case History: A Brief History of Wi-Fi*, *ECONOMIST*, June 12, 2004).

<sup>6</sup> *Id.* at 7-8 (citing Nick Flaherty, *Consumer WiFi Drives Global Growth*, *THE EMBEDDED BLOG*, May 26, 2010, <http://embeddedblog.blogspot.com/2010/05/consumer-wifi-drives-global-growth.html>).

<sup>7</sup> Comments of Edgar Figueroa, CEO, Wi-Fi Alliance, at Center for Internet and Society at Stanford Law School, “The Power and Potential of the Unlicensed Economy” (July 11, 2012), *available at* <http://stanfordvideo.stanford.edu/stream/saapanel.html> (“Stanford Unlicensed Economy Conference”).

<sup>8</sup> Cooper at 10.

tablets,<sup>9</sup> and Cisco's Virtual Networking Index found that traffic from devices connecting to the network via Wi-Fi represented 37 percent of *all* IP traffic in the United States in 2011.<sup>10</sup> That number is expected to rise to 45 percent by 2016.<sup>11</sup> In comparison, traffic from devices relying solely on wired connections to the network will drop from 62 percent in 2011 to 45 percent by 2016.<sup>12</sup>

Wi-Fi devices are not the only unlicensed devices experiencing meteoric sales.<sup>13</sup> For example, in 2011, American consumers and businesses purchased an estimated three-quarters of a billion to a billion RFID devices.<sup>14</sup> Moreover, Bluetooth and ZigBee, as recognized by the President's Council of Advisors on Science and Technology ("PCAST"), also "offer an overwhelming array of new services."<sup>15</sup> Bluetooth is increasingly a standard feature in new automobiles, facilitating hands-free operation of music players, smartphones, and other

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<sup>9</sup> *Id.* at 13.

<sup>10</sup> Cisco Virtual Networking Index 2011-2016, Forecast Highlights Tool, United States – Network Connections, *available at* [http://www.cisco.com/web/solutions/sp/vni/vni\\_forecast\\_highlights/index.html#~Country](http://www.cisco.com/web/solutions/sp/vni/vni_forecast_highlights/index.html#~Country) ("CVNI Forecast"). In comparison, mobile data traffic was 2 percent of all IP traffic in 2011. *Id.*

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> *See* Cooper at 9 & n.35.

<sup>14</sup> *See RFID Market Reaches \$7.67 Billion in 2012 – Up 17% from 2011*, IDTECHEX, July 18, 2012, <http://www.idtechex.com/research/articles/rfid-market-reaches-7-67-billion-in-2012-up-17-from-2011-00004585.asp> (noting that 2.93 billion RFID tags were sold globally in 2011); Thanki 2009 at 35 (estimating that U.S. unlicensed sales account for up to 25 percent of the global market); *RFID Forecasts, Players and Opportunities 2011-2021*, Summary, IDTECHEX (2011), [http://www.idtechex.com/research/reports/rfid\\_forecasts\\_players\\_and\\_opportunities\\_2011\\_2021\\_000250.asp](http://www.idtechex.com/research/reports/rfid_forecasts_players_and_opportunities_2011_2021_000250.asp) (showing figures estimating that the North American share of RFID sales will amount to nearly 35 percent of global sales by 2016).

<sup>15</sup> Executive Office of the President, President's Council of Advisors on Science and Technology, *Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth*, Report to the President, at 40 (July 2012) ("PCAST Spectrum Report").

devices.<sup>16</sup> ZigBee powers technologies that benefit from ad-hoc and mesh networking solutions, such as home automation.<sup>17</sup> Almost one billion Bluetooth chipsets were sold in 2008,<sup>18</sup> with sales increasing 23 percent between 2009 and 2010.<sup>19</sup> Total Bluetooth sales will reach 2.4 billion by 2014, according to a recent estimate.<sup>20</sup> Similarly, ZigBee devices are experiencing rapid growth, from about 15 million in 2008<sup>21</sup> to an estimated 350 million by 2016.<sup>22</sup> Combining the growth in Wi-Fi, Bluetooth, RFID, ZigBee, and unlicensed devices based on other protocols, a recent study found that consumers are fueling an astonishing demand for unlicensed devices, which are experiencing a “compound annual growth rate approaching 50 percent.”<sup>23</sup>

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<sup>16</sup> James Hamel, *Which 2010 Cars Have Bluetooth Capability*, YAHOO! VOICES, Dec. 4, 2009, <http://voices.yahoo.com/which-2010-cars-bluetooth-capability-5016758.html> (“Bluetooth is becoming a more and more common feature on new cars”).

<sup>17</sup> See ZigBee Home Automation Overview, <http://www.zigbee.org/Standards/ZigBeeHomeAutomation/Overview.aspx> (describing the ZigBee Alliance’s Home Automation standard).

<sup>18</sup> Thanki 2009 at 18.

<sup>19</sup> In-Stat/MDR, Summary, *Bluetooth 2011: Rapid Growth for Established Interface*, RESEARCH AND MARKETS, Aug. 2011, [http://www.researchandmarkets.com/research/11da13/bluetooth\\_2011\\_ra](http://www.researchandmarkets.com/research/11da13/bluetooth_2011_ra).

<sup>20</sup> Thanki 2009 at 18.

<sup>21</sup> *Id.*

<sup>22</sup> *Bluetooth and ZigBee on Collision Course in the Connected Home and Wireless Sensors*, ABI RESEARCH, July 12, 2012, <http://www.abiresearch.com/press/bluetooth-and-zigbee-on-collision-course-in-the-co>.

<sup>23</sup> Cooper at 7; Thanki 2009 at 19 (“[S]hipments of devices using only licensed spectrum, including phones and 3G and 4G dongles, televisions and radios, will remain stable, perhaps even decline [while] shipments of hybrid devices, including Wi-Fi and Bluetooth enabled mobile phones, 3G and 4G enabled laptops, Wi-Fi enabled televisions and set-top boxes, and cars possessing Bluetooth will likely double....The sales of devices using only unlicensed spectrum are likely to soar, led by Wi-Fi and Bluetooth enabled consumer electronics and laptops, 802.15.4 devices in the consumer, commercial and industrial sectors, and RFID devices.”).

**B. The Unlicensed Wireless Sector Contributes Billions to the National Economy.**

Because of the enormous number of unlicensed devices described above, the growth of consumer demand seen each year, and the efficiency gains produced by these technologies, the unlicensed wireless sector has contributed substantially to the U.S. economy in an era where growth in other sectors has been limited. Recent studies calculate the annual contribution of the unlicensed wireless sector to be between \$50 and \$100 billion per year.<sup>24</sup>

These estimates include economic contributions created by unlicensed wireless technologies and services that enable applications such as:

- Internet access in homes;
- Internet access in retail establishments;
- Machine-to-machine connectivity;
- Hospital and healthcare connectivity;
- Cellular offload;
- Rural connectivity through WISPs; and
- Smart-grid connectivity.

In addition, recent investments by cable companies such as Cablevision, Comcast, and Time Warner Cable have added another dimension to the economic contribution made by unlicensed technologies—Wi-Fi metropolitan networks (“metronets”). These cable investments, and the growing trend of augmenting and improving wireline networks with metronets more generally, represent an enormous new contribution to the national economy powered by unlicensed technologies that are not yet reflected in economists’ estimates.

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<sup>24</sup> See Cooper at 21-24 & Ex. IV-2. Other studies have estimated the global economic impact from connected devices (the majority of which will use unlicensed spectrum) will reach \$4.5 trillion by 2020. See generally GSMA, *The Connected Life: A USD 4.5 Trillion Global Impact in 2020* (Feb. 2012), available at [http://connectedlife.gsma.com/wp-content/uploads/2012/02/Global\\_Impact\\_2012.pdf](http://connectedlife.gsma.com/wp-content/uploads/2012/02/Global_Impact_2012.pdf).

## 1. Internet access in homes.

Strategy Analytics estimates that 61 percent of U.S. households depend on unlicensed technologies for home networking.<sup>25</sup> The best-known use of unlicensed technologies by home users is wireless access to a wired-broadband connection. Economist Richard Thanki estimates this extension of fixed broadband networks by use of unlicensed spectrum generates \$15.5 billion of consumer surplus in the United States every year.<sup>26</sup> Indeed, he estimates that between 4 and 9 million additional households in the United States subscribe to fixed broadband *because of the availability of Wi-Fi*;<sup>27</sup> he also estimates that without Wi-Fi, between 10 and 23 million fixed broadband connections would be disconnected in North America.<sup>28</sup>

American households' dependence on unlicensed technologies, and the value of this unlicensed technology application to the economy, is likely to grow substantially in the near future. Whole-home distribution of online video will contribute greatly to this growth. By 2016, two-thirds of all mobile broadband traffic is expected to consist of online video.<sup>29</sup> Video and gaming, more than other wireless applications, rely heavily on unlicensed spectrum because 3G

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<sup>25</sup> Press Release, *Strategy Analytics: A Quarter of Households Worldwide Now Have Wireless Home Networks*, BUSINESS WIRE, Apr. 4, 2012, <http://www.businesswire.com/news/home/20120404006331/en/Strategy-Analytics-Quarter-Households-Worldwide-Wireless-Home>.

<sup>26</sup> Richard Thanki, *The Economic Significance of Licence-Exempt Spectrum to the Future of the Internet*, at 35 (June 2012) ("Thanki 2012"). Unlicensed advocates in Europe have estimated that "the value created by dedicating high quality spectrum to unlicensed would be over \$110 billion per year." Those advocates are calling for dedicating 50 MHz of spectrum to unlicensed use. Cooper at 30-31.

<sup>27</sup> Thanki 2009 at 27.

<sup>28</sup> Thanki 2012 at 36.

<sup>29</sup> Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2011–2016, Executive Summary, [http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white\\_paper\\_c11-520862.html](http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html).

and 4G networks are simply not capable of handling the amount of bandwidth consumers of online video and gaming demand.<sup>30</sup> Even if carrier networks had or could increase capacity to accommodate that demand, access would be very expensive for consumers. As online video and gaming applications become an ever-greater percentage of wireless content, consumers will need additional unlicensed spectrum to ensure access to the applications they demand, when and where they demand them.

## **2. Internet access in retail establishments.**

Wi-Fi hotspots provided by retailers and other commercial establishments are becoming an ever-more important part of the unlicensed ecosystem as well. Although Wi-Fi has long been available at universities, government buildings, and libraries, more and more commercial establishments are realizing the value of providing broadband connectivity via hotspots for customers. In addition to access points administered by individual retailers, many other Wi-Fi hotspots are provided by nationwide wireless carriers—as of 2011, for instance, AT&T stated that it alone operated 29,000 hotspots in the United States<sup>31</sup> and a study by HSBC found that the four nationwide wireless carriers in the U.S. operate four hotspots for every cell site.<sup>32</sup>

A recent paper estimated that this commercial hotspot connectivity creates \$10 billion of value per year,<sup>33</sup> and that this value will grow as more and more restaurants, malls, hotels, and convention centers make Wi-Fi available throughout their properties. Many businesses view Wi-Fi as critical for driving in-store consumers to mobile commerce and marketing applications

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<sup>30</sup> Cf. Comments of Vijay Nagarajan, Broadcom, at Stanford Unlicensed Economy Conference (noting that even current-generation Wi-Fi networks will be unable to accommodate the growing demand for online video).

<sup>31</sup> Cooper at 11 (citing AT&T).

<sup>32</sup> *Id.*

<sup>33</sup> *Id.* at 19.

“due to its pervasive presence in consumer smartphones and the lack of adequate 3G/4G cellular data network coverage within many brick-and-mortar facilities.”<sup>34</sup> For example, the hospitality industry has begun to realize that hotel and convention guests not only want but also expect wireless access everywhere—and by ensuring that access is available, they strengthen their bottom line.<sup>35</sup>

### 3. Machine-to-machine connectivity and the Internet of Things.

Machine-to-machine (“M2M”) communications permit a huge variety of automated data exchange, including connections needed for supply chain management, asset tracking, access control, and smart grid implementation—and rely almost exclusively on unlicensed spectrum.<sup>36</sup>

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<sup>34</sup> Andrew Vonnagy, “A Look Ahead to Possible Wi-Fi Industry Trends in 2011,” *Revolution Wi-Fi*, Dec. 21, 2010, <http://revolutionwifi.blogspot.com/2010/12/look-ahead-to-possible-wi-fi-industry.html>.

<sup>35</sup> See Justin Herrman, *Don’t Underestimate the Power of Public WiFi Networks*, FORBES.COM, Dec. 3, 2012, <http://www.forbes.com/sites/ciocentral/2012/12/03/dont-underestimate-the-power-of-public-wifi-networks/>.

<sup>36</sup> See Yochai Benkler, *Open Wireless vs. Licensed Spectrum: Evidence from Market Adoption*, at 11-12 (Nov. 2011) (working draft); Thanki 2012 at 59-60 (“The overwhelming majority of connections to the internet by things will use licence-exempt spectrum”). While licensed wireless connectivity will likely play an important role in the IOT as well, the lower costs offered by unlicensed connectivity will be far better suited to most M2M systems. See Benkler at 12. When relying on unlicensed technologies, manufacturers or operators of the networked devices that compose the IOT can focus investment on device design, manufacture, component acquisition, and certification rather than on fees paid to CMRS carriers. Critically, because there is no need to acquire or lease unlicensed spectrum access, the barriers to entry are lower, devices can be simpler and more interoperable, and companies can avoid the higher barriers to entry associated with establishing business arrangements and acquiring carrier-specific devices or components—resulting in the cheaper and simpler environment needed for companies to network of hundreds of millions of previously isolated devices. See John M. Chapin & William H. Lehr, *SCADA for the Rest of Us: Unlicensed Bands Supporting Long-Range Communications*, TPRC 2010, at 7 (“[W]e have identified a communications requirement for [Supervisory Control and Data Acquisition (SCADA) for the rest of us]. The requirement is chosen to require the least amount of communications resources, such that the largest possible group of applications is served, under the condition that those applications are not well supported today... We think it is plausible that there are a

Unlicensed spectrum is perfectly suited to this so-called Internet of Things (“IOT”) because for these machines to be networked cost-efficiently and effectively, designers require access to low-cost spectrum, low-cost components, and standardization.

M2M applications spur economic growth in a variety of ways, such as by increasing efficiency, automating previously manual functions, and eliminating waste.<sup>37</sup> For instance, use of RFID tags in the retail sector can permit companies to track components and raw materials into the factory, and finished products out of the factory into warehouses and retail stores, allowing them to manage their stock, track consumer preferences, and reduce personnel costs.<sup>38</sup> Thanki estimates that inventory management via RFID tags in the retail clothing sector alone could generate \$2 to \$8 billion per year in economic value in the United States between 2009 and 2025.<sup>39</sup>

#### **4. Hospital and healthcare connectivity.**

Unlicensed wireless networks in hospitals and other healthcare facilities also generate enormous value for the U.S. economy. Hospitals have deployed unlicensed wireless technologies both for intra-campus communications as well as for “in-hospital medical grade,

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large number of systems and activities where the benefit of automation per endpoint is significantly less than the communications cost currently charged by mobile service providers to small-volume users, and that the sum of available benefits over all those systems and activities is significant.”).

<sup>37</sup> See Michael Vizard, *GE Values “Internet of Things” in the Trillions*, ITBUSINESSEDGE, Nov. 30, 2012, <http://www.itbusinessedge.com/blogs/it-unmasked/ge-values-internet-of-things-in-the-trillions.html> (“[W]hat GE refers to as the “Industrial Internet” could spur annual productivity gains of 1 to 1.5 percentage points in the U.S. alone... GE estimates that a truly Industrial Internet would also eliminate \$150 billion in waste across major industries, while a one percent increase in productivity would generate savings of \$30 billion in aviation, \$66 billion in power generation and \$63 billion in health care over 15 years.”).

<sup>38</sup> Thanki 2009 at 32.

<sup>39</sup> *Id.* at 34.



mission-critical wireless networks.”<sup>40</sup> Eighty percent of the healthcare wireless market, in fact, is served by unlicensed technologies.<sup>41</sup> Those technologies include campus-wide Wi-Fi as well as RFID, Bluetooth, and ZigBee trackers used to access and update patient records, order tests and prescriptions, and monitor patient conditions.<sup>42</sup>

As of 2009, economist Richard Thanki estimated that wireless local area networks in U.S. hospitals generated as much as \$16 billion of value per year.<sup>43</sup> That value will grow. Unlicensed technologies are particularly well-suited for the large number of healthcare applications, including many patient monitoring services, that depend on connectivity in healthcare facilities, homes, and offices, but not while in transit between these locations.<sup>44</sup> In addition, unlicensed wireless technologies operating at lower power are less likely to cause interference with critical medical equipment.<sup>45</sup> Additional unlicensed spectrum at lower frequencies can also enable hospitals to provide campus-wide coverage with fewer antennas, lowering costs and improving service.

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<sup>40</sup> Benkler at 10 (emphasis omitted).

<sup>41</sup> *Id.* (citing Kalorama Information, *Wireless Technologies in Healthcare*, Sept. 2011).

<sup>42</sup> *See id.* at 11; Thanki 2009 at 28.

<sup>43</sup> Thanki 2009 at 31.

<sup>44</sup> *See* Benkler at 18.

<sup>45</sup> *Cf.* Erik J van Lieshout, et al., *Interference By New-Generation Mobile Phones On Critical Care Medical Equipment*, 11 CRITICAL CARE R98 (2007), available at <http://ccforum.com/content/pdf/cc6115.pdf>.

## 5. Cellular offload.

Unlicensed technologies also contribute to economic growth by serving as an increasingly common part of network management by licensed wireless broadband providers. Access to unlicensed spectrum allows these carriers to offload traffic from congested networks,<sup>46</sup> thereby “lower[ing] their own costs and expand[ing] their service offerings,”<sup>47</sup> while reducing the amount of physical infrastructure needed to support growing mobile broadband demand.<sup>48</sup>

Individual cellular providers are working hard to keep up with the huge quantity of traffic that mobile Internet access generates. To do so, each carrier must make massive investments in its infrastructure. These network operators frequently find it efficient to offload traffic to bands reserved for unlicensed use in combination with a strategy of acquiring new spectrum rights, building additional towers, and otherwise investing to increase the capacity of their systems.<sup>49</sup> Use of the unlicensed capabilities of consumers’ devices to deliver data also allows carriers to take advantage of one of the great strengths of unlicensed systems—commercial establishments, networks such as cable operators, and the combined millions of individual consumers can install far more access points than can any individual wireless carrier, even a large carrier with

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<sup>46</sup> Cooper at 5 (“Faced with a flood of traffic, the operators of networks based on exclusive licenses found it cost-effective to offload huge volumes of traffic onto the unlicensed spectrum.”).

<sup>47</sup> *Id.* at 41.

<sup>48</sup> Thanki 2012 at 8-9.

<sup>49</sup> See Savio Dimatteo, Pan Hui, Bo Han, & Victor O.K. Li, *Cellular Traffic Offloading Through WiFi Networks*, at 10 (Oct. 2011), available at <http://www.deutsche-telekom-laboratories.de/~panhui/publications/mass11offload.pdf> (“[W]e present an architecture for the integration of WiFi networks and mobile-to-mobile Pocket Switched Networks (PSN) with cellular networks to provide a low-cost solution to handle the exponential growth of mobile data traffic. Using real mobility traces from the city of San Francisco, we have shown that only few hundreds of WiFi APs deployed in an area of 313.83km<sup>2</sup> can offload half of the mobile data from the 3G network in our scenario settings for both download and upload cases.”).

enormous resources. If consumers use these unlicensed networks when they are available in conjunction with a carrier's licensed network, the coverage and quality experienced by that consumer improves without the need for additional investment by the carrier.

While carriers continue to make huge investments in their networks, and to make use of microcells and picocells, they are unlikely to replicate the coverage and quality of the nation's huge number of unlicensed access points. Doing so would be uneconomic given the costs associated with securing building access, power, and backhaul for each of the millions of access points in homes, commercial locations, hotels, offices, and now cable metronets. Moreover, the addition of that large a number of new cell sites is likely not possible in "urban areas where the vast majority of end-users reside."<sup>50</sup> Furthermore, each different CMRS carrier would have to repeat this Herculean labor for its own customers, meaning that the cost to the economy of building individual overlapping private microcell/picocell networks of the quality and pervasiveness of today's unlicensed network would be quadrupled, even counting only the four national wireless carriers.

It is therefore not surprising that unlicensed offload is so popular. Today over one-third of the Internet-bound mobile data traffic carried by the CMRS carriers is offloaded to unlicensed bands. That percentage is expected to rise over the next decade.<sup>51</sup> According to ComScore, by mid-2011, 37 percent of smartphone traffic was offloaded by cellular carriers to Wi-Fi

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<sup>50</sup> Cooper at 22.

<sup>51</sup> See Cisco Virtual Networking Index, VNI Mobile Forecast Highlights, 2011-2016, *available at* [http://www.cisco.com/web/solutions/sp/vni/vni\\_mobile\\_forecast\\_highlights/index.html](http://www.cisco.com/web/solutions/sp/vni/vni_mobile_forecast_highlights/index.html); Janko Roettgers, *Wi-Fi to Overtake Wired Network Traffic by 2015*, GIGAOM, June 1, 2011, <http://gigaom.com/2011/06/01/cisco-wifi-vni-report/> (citing Cisco Virtual Networking Index Global IP Traffic Forecast 2011-2015); Cooper at 12; *see also id.* at 5 ("Faced with a flood of traffic, the operators of networks based on exclusive licenses found it cost-effective to offload huge volumes of traffic onto the unlicensed spectrum.").

networks.<sup>52</sup> Devicescape, a Wi-Fi offload company, reports that carriers in the U.S. market can offload as much as 50 percent of cellular traffic to Wi-Fi, a number that far surpassed its initial estimates.<sup>53</sup> And a recent study estimates that Wi-Fi offload has saved licensed wireless carriers as much as \$26 billion per year in infrastructure costs already<sup>54</sup> and the worldwide cost savings to mobile operators has been estimated to reach \$250 billion in the next four years.<sup>55</sup> Wi-Fi traffic already exceeds mobile network traffic by smartphone users in many places<sup>56</sup> and in North America, the absence of Wi-Fi for mobile network offloading would result in an increase of between \$4 and \$8 billion worth of new base stations alone to accommodate the traffic currently handled by Wi-Fi networks.<sup>57</sup>

In the absence of adequate unlicensed spectrum, operators would almost certainly have to raise prices to pay for the necessary infrastructure costs. This would also reduce the value of the network to consumers compared with today's hybrid licensed/unlicensed system (because, as

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<sup>52</sup> Press Release, ComScore, Smartphones and Tablets Drive Nearly 7 Percent of Total U.S. Digital Traffic (Oct. 10, 2011), [http://www.comscore.com/Insights/Press\\_Releases/2011/10/Smartphones\\_and\\_Tablets\\_Drive\\_Nearly\\_7\\_Percent\\_of\\_Total\\_U.S.\\_Digital\\_Traffic](http://www.comscore.com/Insights/Press_Releases/2011/10/Smartphones_and_Tablets_Drive_Nearly_7_Percent_of_Total_U.S._Digital_Traffic); Cooper at 12.

<sup>53</sup> Remarks of Dave Fraser, CEO, Devicescape, at Stanford Unlicensed Economy Conference.

<sup>54</sup> Cooper at 22.

<sup>55</sup> Thanki 2012 at 9.

<sup>56</sup> Informa Telecoms & Media, *White Paper: Understanding Today's Smartphone User: Demystifying Data Usage Trends on Cellular & Wi-Fi Networks* at 3 (Feb. 2012), available at [http://www.informatandm.com/wp-content/uploads/2012/02/Mobidia\\_final.pdf](http://www.informatandm.com/wp-content/uploads/2012/02/Mobidia_final.pdf); Thanki 2012 at 36-37.

<sup>57</sup> Thanki 2012 at 38-39; *see also* Cooper at 17-18. These conclusions are supported by data indicating that cell-site construction has slowed beyond what would be expected. ("[T]he deployment of cell sites slowed dramatically in late 2008. In the ten quarters between December 2008 and June 2011, the industry added 15,000 cell sites. In the ten quarters before December 2008, the industry added 64,000 cell sites—over four times as many. The drop-off in the addition of cell sites coincided with the offloading of traffic onto the unlicensed use spectrum.").

described above, it would be uneconomic or impossible to build a replacement network with the quality and coverage of today's unlicensed network) and hamper innovation (because the absence of unlicensed spectrum would raise barriers to entry).<sup>58</sup> Carriers are increasingly expanding their offload capabilities and investing in the unlicensed ecosystem,<sup>59</sup> showing that they recognize the value of a balanced spectrum policy that makes room for both licensed and unlicensed uses.

#### **6. Rural last-mile connectivity through WISPs.**

Unlicensed technologies also contribute to the national economy by permitting last-mile broadband expansion to areas that are un- or underserved by traditional ISPs. This broadband expansion is critical for job creation and economic growth and “can provide significant benefits to the next generation of American entrepreneurs and small businesses—the engines of job creation and economic growth for the country.”<sup>60</sup> Areas where high-speed broadband is unavailable “will find it more difficult to attract investment and IT-intensive jobs, particularly because they face growing national and international competition.”<sup>61</sup> Broadband and broadband-enabled technologies allow businesses to “increase efficiency, improve market access, reduce costs and increase the speed of both transactions and interactions.”<sup>62</sup>

Wireless Internet Service Providers (“WISPs”) use unlicensed technologies to provide service to rural areas where other broadband providers cannot economically build out wired

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<sup>58</sup> Thanki 2012 at 40.

<sup>59</sup> See, e.g., Tammy Parker, *AT&T: Wi-Fi Will Be in All of our Small Cell Deployments*, FIERCEBROADBANDWIRELESS, Jan. 9, 2013, <http://www.fiercebroadbandwireless.com/story/att-wi-fi-will-be-all-our-small-cell-deployments/2013-01-09>.

<sup>60</sup> *Connecting America* at § 13.1.

<sup>61</sup> *Id.* § 13.4.

<sup>62</sup> *Id.* § 13.1.

systems.<sup>63</sup> Many ISPs cannot justify the expense required to build out to rural and low-population areas.<sup>64</sup> Wireline build-out costs to the last mile—including deployment of customer premises equipment—can cost \$100,000 per mile of cable laid.<sup>65</sup> While these costs may be reasonable in high-population areas where one mile of cable or a single cell site can serve many thousands of customers, they are often uneconomic in rural areas where one mile of cable may serve only a few hundred customers.

WISPs, however, can provide cost-effective wireless broadband service in rural and low-population areas because they avoid the high cost of building out wireline facilities. Up to the last mile, their costs are largely the same as any other traditional provider, but by using unlicensed spectrum, they are able to avoid the high per-customer cost of laying last-mile cable or licensing spectrum for last-mile wireless broadband in rural and low-population areas.

Additional unlicensed spectrum, particularly in the TV band, with its superior propagation characteristics for wide-range, non-line of sight operations, will facilitate further broadband expansion by WISPs into areas least likely to be served by traditional ISPs. Lower frequency spectrum will allow deployment of fewer antennas operating at lower power levels.<sup>66</sup>

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<sup>63</sup> See Eric Buttermann, *Want Wireless Broadband Today? Try a WISP*, PCMAG.COM, Feb. 6, 2009, <http://www.pcmag.com/article2/0,2817,2340369,00.asp> (quoting a WISP spokesman who noted that “[p]hone companies said they’d never bring DSL connections to his community” and who, in response, was able to bring up to 10 mbps service to his town).

<sup>64</sup> *Connecting America* at § 6.8 (“Although pushing fiber deeper into broadband networks considerably improves the performance and reliability of those networks, deploying a mile of fiber can easily cost more than \$100,000”); see also Thanki 2012 at 29.

<sup>65</sup> *Connecting America* § 6.8.

<sup>66</sup> See Thanki 2012 at 45 (noting that TV band spectrum can be used to “spread coverage over an entire area, such as a large farm or village centre, using only a single access point”); Sascha D. Meinrath & Michael Calabrese, *“White Space Devices” & The Myths of Harmful Interference*, 11 N.Y.U. J. LEGIS. & PUB. 495, 501 (2008).

Lower deployment and operating costs will permit faster deployment and keep consumer costs down, both critical to realizing the full economic potential of broadband expansion.

## **7. Smart grid connectivity.**

The use of unlicensed technologies for smart grid connectivity also illustrates the value of unlicensed spectrum to the national economy. The availability of even a small slice of sub-1-GHz unlicensed spectrum in the United States—through the limited and problematic 900 MHz band—has permitted innovation and expansion of smart grid technologies that are unmatched in Europe and in other countries. Smart grid applications permit utility meters to communicate on a short- and long-range basis to meter readers, substations, and central stations, providing information about utility usage and permitting utility providers to increase efficiency, reliability, economics, and sustainability of services. In the United States, most smart grid applications operate over the unlicensed 900 MHz band, while in Europe, the unavailability of sub-1-GHz spectrum has forced many countries to find alternatives, such as connectivity through power line carriers. Richard Thanki notes that the unavailability of sub-1-GHz spectrum for smart grid operations “severely hinders the next steps in the development of the smart grid” in Europe.<sup>67</sup> He estimates that delays in implementation caused by lack of full deployment could result in up to \$240 billion in costs for Europe.<sup>68</sup>

In contrast, smart grid technologies in the U.S. have taken off. Advanced meters are being deployed in the U.S. at almost three times the rate in Europe.<sup>69</sup> Yochai Benkler notes that speedy deployment is largely the result of investment and innovation by “communications

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<sup>67</sup> Thanki 2012 at 71.

<sup>68</sup> *Id.* at 72.

<sup>69</sup> See *PCAST Spectrum Report* at 40 (citing Benkler).

players who specialized in smart grids and could develop solutions without asking permission ... [t]his is exactly the power of open innovation over open wireless bands.”<sup>70</sup> And the economic benefits that accrue from smart grid deployment are very real; access to real-time usage information, for instance, can lead to usage reductions of up to 20 percent. Adding additional unlicensed spectrum not only would speed deployment of smart grids nationwide, permitting cost savings and recovery by consumers, utilities, and government, but would also make possible a set of other longer-range, outdoor unlicensed wireless applications like smart metering that are not possible today because of the constraints of currently available spectrum resources.

#### **8. Cable metronets.**

The emergence of wireless cable metronets adds a new and potentially enormous additional contribution by unlicensed technologies to the national economy. Several cable companies have invested in networks that provide subscribers with access to nomadic and mobile networks so that customers have broadband access not only inside the home, but also outside the home and while traveling.<sup>71</sup> These metronets are based exclusively on unlicensed spectrum bands.<sup>72</sup>

For instance, Cablevision has invested heavily to create a cohesive, organized deployment of city-wide Wi-Fi in New York. It has deployed tens of thousands of unlicensed access points not only in retail and commercial establishments but also in convention centers,

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<sup>70</sup> Benkler at 10.

<sup>71</sup> Comments of Robert Cerbone, Vice President, Wireless Products, Time Warner Cable, at Stanford Unlicensed Economy Conference.

<sup>72</sup> *Id.*



along the streets, and in areas where the public gathers outdoors,<sup>73</sup> with an app that allows subscribers to find a Cablevision hotspot while away from home.<sup>74</sup> Comcast has made its XFINITY Wi-Fi service available to its subscribers for free throughout the Philadelphia area<sup>75</sup> and in its California footprint.<sup>76</sup> Bright House Networks customers have access to free Wi-Fi throughout Florida,<sup>77</sup> while Cox has made free Wi-Fi available in Connecticut and Northern Virginia.<sup>78</sup> Time Warner similarly has invested in a large unlicensed network in Los Angeles, offering its customers Internet access in tens of thousands of retail establishments, businesses, and in outdoor public areas.<sup>79</sup>

Furthermore, cable operators are working together to provide reciprocal access for each other's subscribers. Time Warner Cable, Comcast, Cox, Cablevision, and Bright House Networks have announced a platform called CableWiFi, which permits subscribers of any of the five companies to connect to the other providers' Wi-Fi networks in the New York City area,

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<sup>73</sup> David Pogue, *Free Wi-Fi for Cablevision Subscribers? Yep.*, N.Y. TIMES, May 1, 2009, <http://pogue.blogs.nytimes.com/2009/05/01/free-wi-fi-for-cablevision-subscribers-yep/>.

<sup>74</sup> Jon Fingas, *Cablevision launches iOS app to track down Optimum WiFi hotspots, keep you off the 3G sauce*, ENGADGET, June 27, 2012, <http://www.engadget.com/2012/06/27/cablevision-launches-ios-app-to-track-down-optimum-wifi-hotspots/>.

<sup>75</sup> Chloe Albanesius, *Comcast Launches Xfinity Wi-Fi Hot Spots in Philadelphia, N.J.*, PCMAG.COM, Oct. 11, 2010, <http://www.pcmag.com/article2/0,2817,2370607,00.asp>.

<sup>76</sup> Angela Moscaritolo, *Comcast Rolls Out Free Wi-Fi in California for Xfinity Customers*, PCMAG.COM, Sept. 27, 2012, <http://www.pcmag.com/article2/0,2817,2410276,00.asp>.

<sup>77</sup> Press Release, Bright House Networks Customers Can Now Stay Connected on the Go with Bright House Networks WiFi, Jan. 12, 2012, <http://brighthouse.com/central-florida/about/9939.htm>.

<sup>78</sup> Cox WiFi, [http://ww2.cox.com/aboutus/connecticut/our-story/our-services/wifi-hotspot-map.cox?campcode=ln\\_wifi\\_find\\_011313](http://ww2.cox.com/aboutus/connecticut/our-story/our-services/wifi-hotspot-map.cox?campcode=ln_wifi_find_011313).

<sup>79</sup> TWC WiFi, <http://www.twcwifi.com/support>, *Time Warner Cable Rolls Out Wi-Fi Service in Los Angeles*, LA TIMES, Sept. 9, 2011, <http://latimesblogs.latimes.com/entertainmentnewsbuzz/2011/09/time-warner-cable-rolls-out-wi-fi-service-in-los-angeles.html>.

Los Angeles, Tampa, Orlando, and Philadelphia, just as though they were connecting in their home market.<sup>80</sup> In all, the five providers expect to provide access to 50,000 hotspots nationwide.<sup>81</sup>

Cable metronets are just beginning to emerge, and have therefore not been part of any prior economic analysis. Thus the economic values estimated by Richard Thanki, Mark Cooper, and others that are discussed above do not account for this additional contribution to the national economy. Therefore, the overall contribution of unlicensed to the economy is likely much, much higher than the figures cited in these comments.

**C. New Spectrum Designations Are Needed To Support and Expand the Economic Growth, Job Creation, and Innovation Created by Unlicensed Wireless Technologies.**

To maintain the exceptional growth and economic contribution of the unlicensed wireless sector, the FCC must designate diverse frequencies for use by unlicensed technologies.

Additional frequencies are necessary to support new innovations that are not possible with existing unlicensed designations and to improve and enrich existing applications that are limited by today's unlicensed spectrum bands. Studies predict that traffic on unlicensed networks will grow rapidly in the near future<sup>82</sup>—as noted above, Wi-Fi traffic already accounts for more than

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<sup>80</sup> Comments of Robert Cerbone, Vice President, Wireless Products, Time Warner Cable, at Stanford Unlicensed Economy Conference; Chenda Ngak, *Time Warner, Comcast, Cablevision to offer free Wi-Fi hotspots*, CBSNEWS.COM, May 22, 2012, [http://www.cbsnews.com/8301-501465\\_162-57439268-501465/time-warner-comcast-cablevision-to-offer-free-wi-fi-hotspots/](http://www.cbsnews.com/8301-501465_162-57439268-501465/time-warner-comcast-cablevision-to-offer-free-wi-fi-hotspots/).

<sup>81</sup> Daniel Cooper, *CableWiFi ties up 50,000 WiFi hotspots for cable subscribers to share*, ENGADGET, May 21, 2012, <http://www.engadget.com/2012/05/21/50000-cablewifi-hotspots/>.

<sup>82</sup> CVNI Forecast. See also Cooper at 28, 35; see, e.g., Mass Consultants Limited, *Estimating the Utilisation of Key Licence-Exempt Spectrum Bands*, Final Report, Issue 3, at 2, 27 & 80 (Apr. 2009), available at <http://stakeholders.ofcom.org.uk/binaries/research/technology->

one-third of all IP traffic in the United States and for 80 percent of IP traffic from mobile devices. To keep pace with consumer demand, innovators and investors will need both additional licensed spectrum resources and additional higher-frequency, middle-frequency, and lower-frequency unlicensed spectrum resources.

Google and Microsoft are therefore pleased that the FCC is pursuing new spectrum auctions, and, in addition, new unlicensed designations in the 600 MHz, 3.5 GHz,<sup>83</sup> and 5 GHz,<sup>84</sup> bands. The Commission should rapidly make available new resources in each of these frequency ranges to address growing consumer demand for different types of wireless devices and applications, with different ranges and capabilities.

The FCC has already recognized the inherent benefits of providing unlicensed access in the 600 MHz band in its television white spaces proceeding.<sup>85</sup> The Commission recognized the value of sub-1-GHz spectrum for wide-area wireless broadband access, such as that provided by WISPs, noting that “transmissions in the TV band are subject to less propagation attenuation than transmissions in the spectrum where existing broadband unlicensed operations are

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research/wfiutilisation.pdf (“MCL Utilization Report”); *cf. supra* Part II.A (noting the explosive growth in unlicensed device sales).

<sup>83</sup> See *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550- 3650 MHz Band*, Notice of Proposed Rulemaking and Order, GN Docket No. 12-354 (rel. Dec. 12, 2012).

<sup>84</sup> Middle Class Tax Relief and Job Creation Act, Pub. L. 112-96, 126 Stat. 156, § 6406 (“Spectrum Act”).

<sup>85</sup> See generally *Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Notice of Inquiry, 17 FCC Rcd. 25632 (2002); *Unlicensed Operation in the TV Broadcast Bands, Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Notice of Proposed Rulemaking, 19 FCC Rcd. 10018 (2004) (“*White Spaces NPRM*”); *Unlicensed Operation in the TV Broadcast Bands, Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, First Report and Order and Further Notice of Proposed Rulemaking, 21 FCC Rcd. 12266 (2006) (“*White Spaces First Report & Order*”).

permitted,” and that “allowing unlicensed operation in the TV bands could benefit wireless internet service providers (WISPs) by improving the service range of their existing operations, thereby allowing WISPs to reach new customers.”<sup>86</sup> The Commission also noted that permitting unlicensed use of sub-1-GHz spectrum is likely to facilitate innovation by device manufacturers, and that “[g]iven the favorable propagation characteristics of the TV spectrum, these new devices could provide more effective service at greater ranges than other unlicensed devices that operate at higher frequency bands.”<sup>87</sup> The Commission rightly expected this innovation to “have significant benefits for economic development and for consumers and businesses by providing additional competition in the broadband market.”<sup>88</sup>

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<sup>86</sup> *White Spaces NPRM* ¶ 1.

<sup>87</sup> *Id.* ¶ 7

<sup>88</sup> *Id.*; see also *White Spaces First Report & Order* ¶ 1 (“Because transmissions in the TV band are subject to less propagation attenuation than transmissions in other bands where lower power operations are permitted (such as unlicensed operations in the 2.4 GHz band), operations in the TV bands can benefit a wide range of service providers and consumers by improving the service range of wireless operations, thereby allowing operators to reach new customers.”); *id.* at ¶ 13 (“Because of the favorable propagation characteristics of the TV spectrum, these new devices could provide more effective service at greater ranges than unlicensed devices that operate at higher frequency bands. These new devices and services could also have significant benefits for economic development and for consumers and businesses by providing additional competition in the broadband market.”); *Unlicensed Operation in the TV Broadcast Bands, Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Second Report and Order and Memorandum Opinion and Order, 23 FCC Rcd. 16807 (2008) ¶ 32 (“*White Spaces Second Report & Order*”) (“this decision will provide significant benefits for the public by enabling the development and operation of a wide range of new unlicensed wireless communications devices and systems in spectrum where signals are less subject to propagation losses than they are in the bands currently available for such devices. The propagation characteristics of these bands will allow the development of devices that can provide service at greater ranges than existing unlicensed devices. Proponents of broadband devices and services in particular indicate that there is need for new broadband devices that will take advantage of the more desirable propagation characteristics of the TV bands. As indicated above, we believe that the propagation advantages of this spectrum will make it possible for WISPs and others to improve or extend their reach to customers in rural and other less densely populated area.

Unlicensed access in the 600 MHz spectrum band therefore offers a substantial improvement for consumers and businesses that need longer-range communications and whole-home or whole-office coverage. This will also enable new and better unlicensed wireless applications, which could include:

- Broadband deployment in rural and other underserved areas where fiber deployment is too expensive;
- More efficient smart grid networking;<sup>89</sup>
- Healthcare applications available throughout a hospital from fewer access points;
- “Smart city” municipal applications such as lighting control, parking services, security cameras, and resources monitoring;
- Inventory management throughout factories or warehouses;
- Mobile payments systems across wide areas;<sup>90</sup>
- Fleet management in short and wide-range applications;<sup>91</sup> and
- Access/security, including smart card and biometric products, in areas where wired access is not possible.<sup>92</sup>

Furthermore, having access to high, middle, and low-frequency unlicensed bands will provide innovators far greater flexibility in designing equipment to enable a wide range of use cases. This will give engineers access to less expensive components that operate at a lower power on lower frequencies, where line-of-sight operations are not possible and where interference must be avoided, and at higher power in higher-frequency bands, permitting focused

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We also anticipate that these new devices will have economic benefits for consumers and businesses by facilitating the development of additional competition in the broadband market.”).

<sup>89</sup> See Benkler at 8-10.

<sup>90</sup> Cf. *id.* at 12-13.

<sup>91</sup> See *id.* at 14 (“The most likely important potential application of a dedicated open wireless band in the TV bands would be to permit innovation and experimentation with wider coverage that could begin to offer alternatives to licensed-spectrum approaches even in very wide area applications that have low tolerance for latency: like fleet management.”).

<sup>92</sup> *Id.* at 12.

point-to-point communications. Finally, unlicensed devices operating in the broadcast bands require less power for a given range and throughput, which increases battery life and reduces operating costs.

In addition to the innovation potential of the 600 MHz band, additional unlicensed designations at lower-frequency bands can provide a much-needed alternative to higher-frequency bands currently used intensively by unlicensed technologies. The 2.4 GHz band, while critical to the success of Wi-Fi and other unlicensed technologies, is increasingly congested, particularly in major cities and population centers<sup>93</sup>—the very areas where it will be most expensive to build further licensed network capacity. For example, a study commissioned by Ofcom in 2009 found that Wi-Fi suffered from congestion problems in the most populated parts of London, noting that at least some believed that increasing use of streaming video would eventually “cause the downfall of WiFi.”<sup>94</sup>

In addition to congestion caused by too many people trying to access the same Wi-Fi channels at the same time, the study found that the increased numbers of other, non-Wi-Fi devices using the 2.4 GHz band also caused degradation in Wi-Fi quality.<sup>95</sup> Where there are more people, there will be more baby monitors, security cameras, and microwave ovens, and many other types of devices that increase congestion. In the near future, if not already in some locations, it is likely that the 2.4 GHz band will not be able to support growing consumer demand, notwithstanding Wi-Fi’s efficiency and advances in technology, unless innovators can pair this band with new spectrum resources—just as licensed wireless carriers have explained

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<sup>93</sup> Cooper at 22 (Expansion of mobile networks in the absence of wireless offloading is likely not possible in “urban areas where the vast majority of end-users reside.”).

<sup>94</sup> MCL Utilization Report at 27.

<sup>95</sup> *Id.* at 2, 27.

that existing licensed bands may become unable to support growing licensed operations, despite their substantial investments and technological improvements.

Furthermore, while the 5 GHz band is an important part of the unlicensed ecosystem, it has serious regulatory, interference, and physical limitations.<sup>96</sup> First, the physical characteristics of the high-frequency 5 GHz band make it unsuitable for many unlicensed applications, such as those that require transmission over a wider range and through obstructions. Lower-frequency spectrum is ideal for two-way communications over a wider area, where non-line-of-sight operation is important, and to serve entire offices or homes.<sup>97</sup> Anyone who has attempted to cover more than a small area with a 5 GHz Wi-Fi router understands the limitations of these frequencies. Some will argue that consumers and businesses can mitigate the limitations presented by the physical characteristics of the 5 GHz band by buying more access points to serve their home or business. But this adds significant cost and complexity for consumers and businesses. A single unlicensed device operating at 600 MHz will have far greater range, operate effectively even through walls and in other difficult environments, and will therefore allow more cost-effective networking.<sup>98</sup>

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<sup>96</sup> See, e.g., 47 C.F.R. § 15.407(a)(1), (e) & (h) (prescribing highly restrictive technical limitations on operations in 5 GHz); FCC Office of Engineering and Technology Laboratory Division, Interim Plans to Approve UNII Devices Operating in the 5470 - 5725 MHz Band with Radar Detection and DFS Capabilities, KDB # 443999 (Oct. 14, 2010) (“notching out” 5 GHz channels that overlap with spectrum used by weather radar systems).

<sup>97</sup> Lehr at 15.

<sup>98</sup> See *id.* at 15-16 (describing a study by Wanichkorn and Sirbu that found a 2.6 GHz system would require twice as many cell sites as one operating at 700 MHz). In the context of M2M communications like smart grid technologies, discussed above, the “important potential application of a dedicated open wireless band in the TV bands would be to permit innovation and experimentation with wider coverage that could begin to offer alternatives to licensed-spectrum applications even in very wide area applications that have low tolerance for latency.” Benkler at 14.

Second, the FCC has mandated a series of highly restrictive technical limitations on 5 GHz operations. In particular, the FCC requires unlicensed National Information Infrastructure (“U-NII”) devices that operate in portions of the 5 GHz band to use low transmit power—including a 50 mW limit in 100 MHz of spectrum,<sup>99</sup> restrict operations to indoor use,<sup>100</sup> detect and avoid radar systems,<sup>101</sup> and/or “notch out” any channels that overlap with 50 MHz of spectrum used by weather radar systems.<sup>102</sup> Such limitations make all but the U-NII 3/U-NII Upper band (5.725-5.825 GHz) unsuitable for many consumer and business needs, such as cable modems and other wireless networks that provide outdoor coverage, and wireless access points with coverage throughout the home.

Third, even for the U-NII 3 band, operations in the overlapping ISM band at 5.8 GHz pose interference risks that limit the utility of this band since U-NII 3 devices must operate in an increasingly crowded portion of the 5.8 GHz ISM band alongside video monitors, perimeter and motion sensors, cordless phones, microwave ovens, and other non-broadband uses.

Finally, while Google and Microsoft support the Commission’s announcement that it will begin a proceeding to consider designating the 5.35-5.47 and 5.825-5.9 GHz bands for unlicensed uses,<sup>103</sup> access to this additional 5 GHz spectrum will be of limited benefit for many wireless broadband applications if the Commission’s rules include operating restrictions similar

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<sup>99</sup> 47 C.F.R. § 15.407(a)(1).

<sup>100</sup> 47 C.F.R. § 15.407(e).

<sup>101</sup> 47 C.F.R. § 15.407(h).

<sup>102</sup> See FCC Office of Engineering and Technology Laboratory Division, Interim Plans to Approve UNII Devices Operating in the 5470 - 5725 MHz Band with Radar Detection and DFS Capabilities, KDB # 443999 (Oct. 14, 2010).

<sup>103</sup> See News Release, FCC Chairman Julius Genachowski Announces Major Effort To Increase Wi-Fi Speeds And Alleviate Wi-Fi Congestion At Airports, Convention Centers, And In Homes With Multiple Devices And Users (Jan. 9, 2013).



to those in the existing U-NII 1, 2, or 2 Extended rules. In sum, while 5 GHz must be a part of the plan to address the unlicensed spectrum crunch, it is not a silver bullet.

Despite the clear benefits to consumers and innovation of substantial low-frequency unlicensed spectrum, the only sub-1-GHz spectrum available for unlicensed technologies today is the small 26 MHz slice of spectrum in the 900 MHz band and the TV white spaces, which have been hampered by persistent regulatory uncertainty. Furthermore, the FCC's proposed TV channel repack following an incentive auction may substantially reduce white spaces that are available for unlicensed use. Without additional dedicated unlicensed spectrum in the 600 MHz band, innovators and investors will not have adequate spectrum resources and the economic growth and innovation described above will suffer. It is therefore critical that the FCC take the opportunity presented in this proceeding and designate additional spectrum for unlicensed use.

**III. FREEING A BALANCE OF LICENSED AND UNLICENSED SPECTRUM IN THE 600 MHZ BAND WILL ENSURE ADEQUATE FEDERAL REVENUES FOR PUBLIC SAFETY NEEDS AND BROADCASTER RELOCATION.**

The preeminent economic goal of the incentive auction proceeding should be to provide innovators and investors with the licensed and unlicensed spectrum resources they need to create economic growth for the country.<sup>104</sup> As described above, designating spectrum for unlicensed use from reclaimed spectrum in the 600 MHz band will generate enormous economic value for the national economy. The public benefit from this economic growth will dwarf the direct revenues the Commission could ever hope to generate through an auction.

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<sup>104</sup> See *NPRM* ¶ 26 (“Congress passed the Spectrum Act in early 2012 [and] authorized the Commission to conduct incentive auctions to help meet the increasing demand for spectrum to provide highly valued wireless broadband services...”); see Spectrum Act §§ 6402 (codified at 47 U.S.C. § 309(j)(8)(G)(i)), 6403(c)(1).

The FCC also must ensure that the auction produces enough revenue to cover financial requirements needed for public safety and relocation, as required by the statute.<sup>105</sup> Furthermore, Members of Congress have stated that they expect that the auction will produce additional revenues that can be used to address the country's financial crisis. Designating spectrum resources for unlicensed technologies within the framework of the Spectrum Act is fully consistent with both goals because unlicensed spectrum designation will not reduce, and may increase, the value of the spectrum that is auctioned, and therefore will not reduce the revenues directly recovered through the auction.

This is the case for several reasons. First, according to a recent paper by Jeremy Bulow, Jonathan Levin, and Paul Milgrom, assuming the demand for licensed spectrum is relatively inelastic, "leaving some spectrum unlicensed reduces the supply of licensed spectrum,"<sup>106</sup> and this reduction in supply will raise the per unit price of the licensed spectrum.<sup>107</sup> The result is that the auctioned spectrum generates more revenue per unit than it otherwise would have, compensating for the reduction in the amount of spectrum auctioned.

Second, even if demand for spectrum is elastic, Bulow, Levin, and Milgrom have shown that the overall revenue in spectrum auctions tends to reflect the aggregate budgets of the winning bidders rather than the price per MHz-pop.<sup>108</sup> They demonstrate that those entities that

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<sup>105</sup> See Spectrum Act at § 6402; see also NPRM ¶ 26 ("[Congress] directed that certain proceeds from the incentive auction be deposited in the Public Safety Trust Fund to fund a national first responder network, state and local public safety grants, public safety research, and national debt reduction.").

<sup>106</sup> Paul Milgrom, Jonathan Levin, and Assaf Eilat, *The Case for Unlicensed Spectrum*, 2-3, 23 (Oct. 2011) ("Milgrom, et al.").

<sup>107</sup> See Cooper at 46 & n.150 (citing Milgrom, et al.).

<sup>108</sup> Jeremy Bulow, Jonathan Levin, and Paul Milgrom, *Winning Play in Spectrum Auctions*, at 2, 7-12 (2009), available at <http://www.stanford.edu/~jdlevin/Papers/AWS.pdf> ("If a bidder

intend to bid on the available spectrum will have determined how much they will spend, and they are likely to spend that entire amount regardless of the total amount of spectrum they obtain, provided they obtain the minimum amount of spectrum they need. Thus, a reduction in spectrum available for auction due to the designation of a reasonable amount of spectrum for unlicensed technologies is not likely to result in significant reductions in overall revenue generated.<sup>109</sup>

Third, designating spectrum for unlicensed use will raise the inherent value of licensed spectrum by “encourag[ing] the development of complementary, demand-enhancing services that raise the economic value of the licensed spectrum networks.”<sup>110</sup> In other words, the availability of unlicensed spectrum increases the value consumers receive from licensed mobile broadband networks because licensed and unlicensed networks together provide consumers with far greater coverage and quality than licensed networks alone offer. This makes licensed spectrum more valuable to wireless carriers because it means that consumers see more value for what they pay for licensed wireless broadband services, which is reflected in even higher consumer demand for those services. And this increase in the value of licensed wireless networks accrues to the benefit of wireless carriers at far lower cost than if they were forced to try to replicate the benefits of the nation’s unlicensed access points on their own by vastly increasing the number of microcells, femtocells, and backhaul using licensed spectrum in each of their networks, as

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faces a binding budget constraint and has broad interests, then as prices increase from round to round, its total exposure will eventually level off at an amount approximating its budget. If all bidders were to fall in this category, then the total exposure of all bidders in the auction would rise to the level of the aggregate bidder budgets and level off, forecasting the final auction prices.”); Milgrom, et al. at 23; *see also* Cooper at 46 & n.150 (citing Milgrom et al).

<sup>109</sup> Milgrom, et al. at 23; *see also* Cooper at 46 & n.150.

<sup>110</sup> Milgrom, et al. at 3; *see also id.* at 23, Cooper at 46.

discussed above. The result: a stronger unlicensed ecosystem leads to higher auction bids for licensed spectrum, and more auction revenue.<sup>111</sup>

#### **IV. THE POST-AUCTION 600 MHz BAND SHOULD ENSURE AN OPTIMAL MIX OF LICENSED AND UNLICENSED SPECTRUM.**

In order to support and expand the economic growth and innovation described above, the NPRM wisely proposes to design the 600 MHz band plan to make “a substantial amount of spectrum available for unlicensed uses, including a significant portion that would be available on a uniform nationwide basis for the first time.”<sup>112</sup> The Commission can best achieve this goal by:

1. Adopting a simple and proven frequency division duplex (“FDD”) band plan for licensed broadband services with technically reasonable duplex gap/guard band designations;
2. Enabling unlicensed broadband operations in the duplex gap/guard band spectrum; and
3. Permitting unlicensed use in the 600 MHz band in areas where auction winners have not yet begun providing service.

Taking these steps will ensure that the public receives the full benefits of both licensed and unlicensed spectrum access for new broadband services in the 600 MHz band.

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<sup>111</sup> Milgrom, et al. at 23. The authors note that additional unlicensed spectrum can reduce revenue for licensed service providers by creating competition. The result in that scenario, however, is still positive, as consumers benefit from increased competition. *Id.* at 23 n.58. *See also* Lehr at 6 & n.12 (“[W]ireless technologies can support increased reliance on edge-based infrastructure which can both substitute for *and* complement investments in the core of the network.” “[C]ustomers may shift functionality from network services to applications run on end-user controlled boxe[s]...[T]he increased functionality will also drive increased demand for core services.”).

<sup>112</sup> NPRM ¶ 9.

**A. The FCC Should Adopt a Proven FDD Band Plan Design With a Technically Reasonable Duplex Gap.**

The NPRM seeks comment on several band plan options for 600 MHz operations, including a preferred “modular” band plan that creates a nationwide downlink band while varying the amount of uplink spectrum.<sup>113</sup> As the Commission explains, this proposal “strive[s] to maximize the amount of spectrum we can repurpose for both licensed and unlicensed wireless broadband services.”<sup>114</sup>

Although the FCC should explore generally how to maximize unlicensed spectrum resources, its particular aim should be to produce the maximum amount of *usable* unlicensed spectrum, taking technical and economic factors into consideration. With this as the goal, and so as to produce an unlicensed spectrum designation that will create the greatest possible economic growth and innovation, the FCC should ensure that the designation: (1) contains sufficient spectrum available on a nationwide basis to support unlicensed deployments, and (2) occupies an interference environment that allows a high-quality consumer experience with equipment that is affordable. An unlicensed designation that has these characteristics will support significant investment by chipmakers, manufacturers, and service providers.

The Commission can create an unlicensed designation with these attributes by implementing a traditional FDD band plan, such as the band plan depicted in Figure 12 in the NPRM,<sup>115</sup> and enabling unlicensed operations in the duplex gap, the guard band separating TV operations from the LTE downlink, and TV white spaces. An FCC band plan that allows unlicensed devices access to a duplex gap that is large enough to support robust unlicensed

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<sup>113</sup> See *id.* ¶ 124.

<sup>114</sup> *Id.* ¶ 125.

<sup>115</sup> *Id.* ¶ 178.

operations will more effectively support innovation and investment than would the “modular” band plan for the following reasons.

First, such a duplex gap, along with other unlicensed designations in the guard band separating TV operations from the LTE downlink and the remaining TV white spaces, will result in a 600 MHz band with substantial enough usable unlicensed spectrum resources to support investment. This will produce a healthy unlicensed ecosystem under 1 GHz.

Second, some amount of contiguous spectrum in the duplex gap will give developers the flexibility to harness more bandwidth from aggregated carrier channels, enabling greater data throughput and a wider range of potential applications, and to account for the interference environment.

Third, a band plan that enables unlicensed operations in the duplex gap is the best way to meet the FCC’s goal of making as much unlicensed spectrum as possible available on a “nationwide basis.”<sup>116</sup> This is the case because unlicensed spectrum in the duplex gap will be available even in cities where there are few white spaces. Sufficient unlicensed spectrum in all markets will provide developers with the certainty they need to create innovative unlicensed applications and services. Without adequate unlicensed spectrum in every market, application, device, and service providers may not invest in developing new products.

For these reasons, an unlicensed designation in a duplex gap that produces substantial spectrum resources would deliver greater benefits to consumers, and support greater levels of innovation and investment, than would the unlicensed designations in the “modular” band plan. As discussed above, spectrum in the duplex gap would be used in connection with spectrum in a guard band separating TV operations from the LTE downlink, as well as spectrum

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<sup>116</sup> *Id.* ¶ 9.

available because of the continued availability of the smaller 6 MHz white spaces among remaining television channels. It is the collective availability of each these complementary resources that will provide a strong foundation for continued healthy growth in unlicensed operations.

**B. Establishing a Significant Duplex Gap and Meaningful Guard Bands Supplemented with “Remainder Spectrum” Is Technically Reasonable.**

The NPRM notes that “the Spectrum Act constrains the FCC to guard bands ‘no larger than is technically reasonable to prevent harmful interference between licensed services outside the guard bands,’ and requires a forward auction in which ‘the Commission assigns licenses for the use of the spectrum that the Commission reallocates.’ Under these provisions, [the FCC] must license the spectrum [the FCC] recover[s] through the broadcast television spectrum reorganization, with the exception of guard bands.”<sup>117</sup> This statutory authority permits the FCC to establish a duplex gap/guard band plan with a sizeable gap to reduce interference between LTE downlink and uplink bands, and 6 MHz guard bands supplemented by any so-called “remainder spectrum,” to reduce interference between LTE operations and high-power broadcast operations.

The NPRM notes that the Commission seeks to “minimize interference between dissimilar adjacent operations.”<sup>118</sup> In addition, the Commission has raised concerns that “[m]inimizing the duplex gap size ... could have a negative impact on mobile performance.”<sup>119</sup> Finally, the NPRM recognizes that wireless broadband services adjacent to television services may not operate at “the same level of performance as spectrum blocks adjacent only to other

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<sup>117</sup> *Id.* ¶ 234.

<sup>118</sup> *Id.* ¶ 152.

<sup>119</sup> *Id.* ¶ 178 & n.262.

spectrum blocks used for wireless broadband service.”<sup>120</sup> Thus, it is “technically reasonable” for the Commission to designate substantial frequency ranges that will reduce negative impacts on mobile performance, allow neighboring services to function, and ensure substitutability among spectrum blocks.

**1. The Spectrum Act’s “technically reasonable” standard gives the Commission broad discretion to determine the appropriate amount of spectrum to address potential interference concerns.**

The NPRM asks how to interpret Congress’s mandate that guard bands be “no larger than is technically reasonable to prevent harmful interference between licensed services outside the guard bands.”<sup>121</sup> The plain meaning of “technically reasonable” and judicial precedent combine to establish that Congress granted the Commission wide discretion in determining the size of any frequency range set aside for interference prevention.

“Reasonable” is an adjective meaning “in accord with reason.”<sup>122</sup> “Reason” means “a statement offered in explanation or justification,” or “a rational ground or motive.”<sup>123</sup> A guard band that is “no larger than is technically reasonable to prevent harmful interference” therefore means a frequency block of any size that the FCC, on the record before it, rationally finds appropriate to prevent harmful interference.

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<sup>120</sup> *Id.* ¶ 152.

<sup>121</sup> *Id.* ¶ 234. *See also id.* ¶¶ 156, 158.

<sup>122</sup> Reasonable, MERRIAM-WEBSTER.COM (2013), <http://www.merriam-webster.com/dictionary/reasonable>.

<sup>123</sup> Reason, MERRIAM-WEBSTER.COM (2013), <http://www.merriam-webster.com/dictionary/reason>.



“Reasonable” does not mean necessary. “Necessary” means “of an inevitable nature,” “logically unavoidable,” “that cannot be denied without contradiction,” “compulsory,” “absolutely needed,” or “required.”<sup>124</sup> If Congress had intended to limit the Commission to setting guard bands that were as small as possible without creating harmful interference, it would have required the FCC to set guard bands that were no larger than technically *necessary* to prevent harmful interference. That it did not use that language (or any words to similar effect) is evidence that Congress intended to give the Commission the discretion to use its expert technical judgment to set appropriate guard band sizes.

Courts have recognized that the term “reasonable” gives an agency wide discretion to act. Especially when an issue is “fairly technical” and involves “policy judgments that lie at the core of the regulatory mission,” judicial review of agency action is “highly deferential.”<sup>125</sup> Put more simply, the D.C. Circuit has found that in administrative law, “reasonable” means “not arbitrary and capricious.”<sup>126</sup> Therefore, the Commission may adopt a duplex gap/guard band plan that it can rationally explain is reasonable to prevent harmful interference.

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<sup>124</sup> Necessary, MERRIAM-WEBSTER.COM (2013), <http://www.merriam-webster.com/dictionary/necessary>.

<sup>125</sup> See *N. States Power Co. (Minnesota) v. FERC*, 30 F.3d 177, 180 (D.C. Cir. 1994).

<sup>126</sup> See *DIRECTV, Inc. v. FCC*, 110 F.3d 816, 829 (D.C. Cir. 1997). For instance, in the environmental context, where agencies are required to consider “all reasonable alternatives” with regard to environmental impact, courts have found that “reasonable alternatives” are those “that are technically and economically practical or feasible *and* meet the purpose and need of the proposed action.” See *Theodore Roosevelt Conversation P’ship v. Salazar*, 661 F.3d 66, 72 (D.C. Cir. 2011) (internal citations and quotation marks omitted) (emphasis added) (“*Salazar*”); see also *Barnes v. Babbitt*, 329 F. Supp. 2d 1141, 1159 (D. Ariz. 2004) (“Reasonable alternatives are those that are feasible, consistent with the reasonable objections of the action, and sufficient to permit a reasoned choice.”).

**2. A band plan with a duplex gap large enough to be usable for robust unlicensed operations is a technically reasonable approach to avoiding harmful interference.**

Consistent with the discretion granted by the Spectrum Act, the Commission seeks comment on both the “necessary size of the duplex gap” for the 600 MHz band plan, as well as the “appropriate” size of that gap.<sup>127</sup> The NPRM notes that the LTE frequency band allocation with the smallest duplex gap in absolute terms is LTE Band 8. This band provides for separation of only 10 MHz.<sup>128</sup> As the Commission recognizes, however, this small duplex gap results in degraded receiver sensitivity due to harmful interference.<sup>129</sup> Specifically, receivers in LTE Band 8 require signals to be 3 dB stronger than signals in LTE bands with superior interference environments in order to compensate for this interference and achieve similar performance.<sup>130</sup> In contrast, the FCC recognizes that the 3GPP bands with “duplex gaps of at least 28 megahertz and at least 1.4 times the pass band size”<sup>131</sup> reduce harmful interference resulting from degraded receiver sensitivity much more effectively than do smaller duplex gaps.

This actual experience is the appropriate starting point for determining a reasonable size for the 600 MHz band duplex gap. A band plan with a duplex gap of 28 MHz is technically reasonable.

First, as the FCC’s calculations demonstrate, duplex gap design necessarily involves a tradeoff between, on the one hand, the performance (more specifically the abruptness in the filter transition from the “pass band” to the “stop band”), size, and cost of filters and, on the other

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<sup>127</sup> NPRM ¶ 167.

<sup>128</sup> See NPRM ¶ 178 & n.262.

<sup>129</sup> See *id.*

<sup>130</sup> See *id.*

<sup>131</sup> *Id.*

hand, the reduction in the power of the desired signal caused by filters.<sup>132</sup> Dr. David Borth, in his attached declaration, explains that a smaller duplex gap would require the use of filters that could either substantially reduce the power of the desired signal, and therefore lead to inferior receiver performance, or the use of large, and/or expensive filters that may increase cost to even attempt to address the degraded interference environment.<sup>133</sup> A larger duplex gap, conversely, allows the use of filters that reduce desired signal levels less and support better performance, without driving up the cost of devices. Filter considerations are especially important for end user devices, where the cost and size of duplex filter design is felt most acutely.<sup>134</sup> Furthermore, Dr. Borth shows that because the LTE network architecture intensively reuses spectrum, any performance loss caused by a smaller duplex gap would be felt throughout the network, potentially significantly reducing system capacity.<sup>135</sup>

Dr. Borth also explains that the Commission's duplex gap should account for interference caused by intermodulation created by LTE transmissions.<sup>136</sup> Because this intermodulation interference would fall in a receiver's desired frequency band, no amount of filtering could prevent the undesired signals from reaching the receiver.<sup>137</sup> This intermodulation issue alone would justify a gap that—at an absolute minimum—exceeds the pass band size.<sup>138</sup>

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<sup>132</sup> Borth Declaration ¶¶ 6-8.

<sup>133</sup> *Id.* ¶ 8.

<sup>134</sup> *Id.* ¶ 10.

<sup>135</sup> *Id.* ¶ 12.

<sup>136</sup> *Id.* ¶ 14.

<sup>137</sup> *Id.*

<sup>138</sup> *Id.* ¶ 15.

Finally, Dr. Borth shows that other factors such as “allowances for temperature and manufacturing variation in components” also can “affect the appropriate duplex gap” determination.<sup>139</sup> Indeed, temperature shifts and manufacturing shifts would require additional duplex gaps on the order of .12 percent—or an additional .72 MHz—for the duplexer, over and above what would otherwise be required.<sup>140</sup> While this is not a large increase in reasonable duplex gap size, it is nonetheless important to recognize.

**3. A meaningful guard band between LTE downlink and digital television is a technically reasonable approach to avoiding harmful interference.**

The Commission also seeks comment on its proposal to implement a 6 MHz guard band between wireless broadband operations in the 600 MHz band and digital television services.<sup>141</sup> As the Commission has recognized, guard band spectrum will play a critical role in avoiding harmful interference to cellular networks and digital television receivers by minimizing the effects of undesired out-of-band emissions (“OOBE”) or receiver overload from adjacent services.<sup>142</sup> Given the significant chance of harmful interference to broadband and broadcast licensees, the Commission should implement a conservative guard band that is larger than 6 MHz. Furthermore, a larger guard band between cellular downlink and DTV will be necessary for the Commission to implement a band plan with “spectrum blocks that are as similar and technically interchangeable as possible.”<sup>143</sup>

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<sup>139</sup> See *NPRM* ¶ 167; Borth Declaration ¶ 16.

<sup>140</sup> Borth Declaration ¶ 16.

<sup>141</sup> *NPRM* ¶ 158.

<sup>142</sup> See *id.* ¶ 156.

<sup>143</sup> See *id.* ¶ 152.

As a threshold matter, the Commission should account for worst-case interference scenarios when determining the appropriate guard band size. This is so for two reasons. First, the Commission will not have any indication of actual television assignments and power levels until after the conclusion of the auction and repack. Second, there is a dearth of published information about interference susceptibility for DTV systems into LTE systems and for LTE systems into DTV systems.<sup>144</sup> The lack of such references hampers prediction of probable interference levels and, consequently, appropriate minimum guard band width determinations.<sup>145</sup>

In the absence of comprehensive studies on the subject, the Commission should take heed of the experiences elsewhere where DTV transmitters and modern cellular systems co-exist, which underscore the need to implement conservative guard bands. For example, in Europe, CEPT (the European Conference of Postal and Telecommunications Administrators) examined co-existence of DVB-T digital television systems with IMT/UMTS cellular systems.<sup>146</sup> One of the conclusions reached by CEPT was that, even with an 8 MHz guard band between these two systems, there was a 14 percent capacity loss in the cellular system due to interference from a digital television transmitter.<sup>147</sup>

Similarly, in the Asia Pacific region, the Asia Pacific Telecommunity (“APT”) evaluated the required minimum guard band size between a DVB-T transmitter and LTE device transmissions under multiple interference scenarios using deterministic, probabilistic, and

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<sup>144</sup> Borth Declaration ¶ 17.

<sup>145</sup> *Id.* ¶ 18.

<sup>146</sup> CEPT Report 23, *Technical Options for the Use of a Harmonised Sub-Band in the Band 470 - 862 MHz for Fixed/Mobile Application (including Uplinks)*, at 7 (Dec. 21, 2007), available at <http://www.erodocdb.dk/docs/doc98/official/pdf/CEPTRep023.pdf>.

<sup>147</sup> *Id.*

empirical studies.<sup>148</sup> The APT report concluded that, for an LTE device transmission bandwidth of 10 MHz, a 9 MHz guard band was the smallest separation distance required to minimize interference between LTE operations and the DTV receiver.<sup>149</sup>

Furthermore, in the U.S., LTE operations in the lower 700 MHz band and DTV operations on television channel 51 similarly counsel for the adoption of conservative separation distances to address DTV/LTE co-existence issues.<sup>150</sup> One of the most significant concerns in that proceeding relates to reverse intermodulation interference to an LTE device transmitter caused by the presence of a strong DTV signal.<sup>151</sup> The record demonstrates that even with a guard band separation of 6 or 12 MHz between the DTV transmitter frequency and the LTE device frequency *and* an LTE duplex gap separation of 24 MHz, significant LTE device receiver sensitivity degradation can occur over many square miles near the DTV transmitter.<sup>152</sup>

Finally, the Commission notes in the NPRM that it has found a 6 MHz separation distance to be sufficient to avoid harmful DTV-to-DTV interference in the 600 MHz band, and that no separation distance is required for low power personal/portable white space devices operating at 40 mW.<sup>153</sup> However, as Dr. Borth explains in his attached declaration, a study conducted at the University of Kansas and submitted in the white spaces proceeding strongly

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<sup>148</sup> APT Report, Implementation Issues Associated With Use Of The Band 698-806 MHz By Mobile Services,” No. APT/AWG/REP-24 (Sept. 2011), *available at* [http://www.apr.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-24\\_APT\\_Report\\_698-806\\_Band\\_Implementation\\_UHF.pdf](http://www.apr.int/sites/default/files/Upload-files/AWG/APT-AWG-REP-24_APT_Report_698-806_Band_Implementation_UHF.pdf).

<sup>149</sup> *Id.* at 12.

<sup>150</sup> *See generally* Promoting Interoperability in the 700 MHz Commercial Spectrum, WT Docket No. 12-69.

<sup>151</sup> Borth Declaration ¶ 19.

<sup>152</sup> *Id.*

<sup>153</sup> NPRM ¶ 156 & n.239.

suggests that 6 MHz would *not* be sufficient separation between DTV and cellular base stations, which are capable of operating at much greater power than either portable or fixed white spaces devices.<sup>154</sup>

**4. Designating remaindered spectrum for unlicensed use is a technically reasonable approach to avoiding harmful interference.**

Google and Microsoft agree with the FCC that, as the NPRM correctly explains, adding remainder spectrum to the guard bands will “further mitigate any potential interference concerns” in the 600 MHz band.<sup>155</sup> As described above, even a 6 MHz guard band will result in an unacceptable level of interference risk for both broadcast and LTE operations. Using remainder spectrum to augment the guard band would be technically reasonable because the increased separation will reduce the likelihood of harmful interference, improving customer experience and reducing costs for carriers. Alternatively, using remainder spectrum to increase the size of the duplex gap would also be technically reasonable because a larger gap will contribute to reducing interference between the uplink and downlink bands (unless the FCC establishes a maximum duplex gap size and is able to achieve that ideal without remainder

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<sup>154</sup> Borth Declaration ¶¶ 20-26. See *Quantifying the Impact of Unlicensed Devices on Digital TV Receivers*, The University of Kansas, Technical Report ITTC-FY2007- 44910-01 (Jan. 31, 2007), available at [http://www.newamerica.net/files/NAF%20Spectrum%20Technical%20Report%20\\_FINALSUBMITTED\\_0.pdf](http://www.newamerica.net/files/NAF%20Spectrum%20Technical%20Report%20_FINALSUBMITTED_0.pdf). The KU Study examined measurements of several DTV receivers to characterize their adjacent and subsequent adjacent channel interference potential. Specifically, the authors used a 6 MHz OFDM signal as an interfering signal to a DTV receiver that received a -68 dBm DTV signal, which they considered to be a weak signal for a consumer grade receiver. The authors intended the OFDM signal to be representative of modern Wi-Fi or WiMAX systems. Accordingly, the results of this study are useful in this proceeding, as LTE signals can similarly employ OFDM modulation over a comparable bandwidth. Borth Declaration ¶ 22.

<sup>155</sup> NPRM ¶ 156.

spectrum). This will enable licensees to provide service more cheaply and efficiently, increasing demand for this spectrum at auction.

In contrast, using remainder spectrum for a new licensed service, with base stations and user equipment operating at substantially higher powers than allowed under unlicensed rules, would eliminate these additional interference mitigation benefits and could itself be a new source of interference. The increased risk of interference to core 600 MHz band services likewise would be reflected in the prices paid for these licensees at auction—in other words, smaller separations will result in less valuable spectrum blocks in the auction and depress auction revenue.

Additionally, auctioning remainder spectrum is incompatible with the proposed 5 MHz “building block” model for the forward auction, which will promote the greatest amount of flexibility and efficiency for new licensed services.<sup>156</sup> This is because any remainder spectrum necessarily will be too small to license on a 5 MHz block basis.<sup>157</sup> Soliciting separate bids for the remaining small spectrum slivers in the simultaneous forward and reverse auction will introduce needless complexity to the auction process, particularly if the Commission auction design contemplates bids for interchangeable licensed spectrum pairs rather than specific frequency bands.<sup>158</sup>

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<sup>156</sup> *Id.* ¶ 128.

<sup>157</sup> *See id.* ¶ 175 (designating remainder spectrum for unlicensed use will “maximize the number of valuable blocks for licensing”).

<sup>158</sup> *See id.* ¶¶ 173-74.



**C. The FCC Should Permit Unlicensed Operations in the 600 MHz Band in Areas Where Auction Winners Have Not Yet Begun Providing Service.**

The NPRM further seeks comment on appropriate build-out and performance rules for licensees in the 600 MHz band.<sup>159</sup> Consistent with the Commission's goal of "promot[ing] the efficient use of spectrum in order to meet the current and future needs of the American public,"<sup>160</sup> the 600 MHz band rules should enable unlicensed spectrum operations in areas where a licensee has yet to deploy its network or has ceased operations.

In the White Spaces Order, the Commission allowed unlicensed white space devices to operate throughout what will become the 600 MHz band after the incentive auction. All white space devices are controlled by one of the databases approved by the Commission. Specifically, unlicensed devices must communicate with a database to determine the frequencies they may use in their geographic location.<sup>161</sup> These databases are constantly updated, and if a particular frequency band is designated as off limits to unlicensed devices, devices must then vacate those frequencies.

While the Commission designed these rules to protect broadcast operations, they also give the FCC the opportunity to allow unlicensed devices to access frequencies within the 600 MHz band that are unused by wireless broadband providers. In order to promote robust and efficient use of the 600 MHz band, the Commission should therefore harness the white spaces databases to include frequencies where 600 MHz licensees have not yet begun operations, and permit unlicensed operations in the appropriate locations. As soon as a licensee notifies the

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<sup>159</sup> See *id.* ¶¶ 394-413.

<sup>160</sup> *Id.* ¶ 23.

<sup>161</sup> See generally 47 C.F.R. Part 15 Subpart H.

Commission that it is ready to begin operations, the rules should require database providers to update their database to prohibit unlicensed operations in the relevant frequencies.

Importantly, because white space devices must check with a database to determine channel availability at least once a day, a 600 MHz spectrum license area can be quickly cleared of unlicensed operations, and made available for the licensed use, once a licensee has determined it is ready to deploy service in a particular service area.<sup>162</sup> Thus, the Commission can ensure that the public benefits from access to extraordinarily valuable spectrum in the 600 MHz band from the outset with no burden on licensees. In fact, carriers themselves may be among the users to take advantage of unlicensed operations prior to build-out. As noted above, carriers already significantly supplement their licensed networks using unlicensed spectrum. Enabling unlicensed operations would permit carriers to get a head start on offering wireless services to subscribers as they determine how best to build out their licensed networks.

The Commission also should enable continued access to 600 MHz band spectrum on an unlicensed basis if a licensee fails to meet its build-out requirement during the time period set by the 600 MHz band rules, as well as in cases where the Commission has determined that the licensee has “permanently discontinued” operations.<sup>163</sup> Although Part 27 of the Commission’s rules includes a relicensing process that presumably could be applied to 600 MHz band licenses,<sup>164</sup> this process takes time, during which otherwise usable spectrum would lie fallow. Unlicensed access in areas where the licensee has stopped providing service—or never provided it in the first place—may be especially critical as these areas are more likely to be underserved.

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<sup>162</sup> See 47 C.F.R. § 15.711(b)(3)(iii).

<sup>163</sup> See *NPRM* ¶¶ 405, 413 (seeking comment on a “user it or share it” approach following the build-out term).

<sup>164</sup> See 47 C.F.R. § 27.14(g)(2).

Granting unlicensed access to 600 MHz band spectrum, again via the white spaces databases, until licensees are ready and able to provide service would help ensure that the public realizes the full potential of this spectrum for innovative broadband services. As described above, once a licensee is ready to begin providing service, it would notify the database administrator and, within a short period of time, any unlicensed users would vacate those frequencies.

**V. THE INCENTIVE AUCTION RULES SHOULD ENSURE THE CONTINUED VIABILITY OF WHITE SPACES OPERATIONS IN THE TELEVISION BROADCAST BANDS.**

As the NPRM observes, the U.S. “leads the world in wireless infrastructure and innovation” in several key areas, including being the “first country to enable unlicensed use of white space spectrum in the television bands.”<sup>165</sup> It is critical that the Commission’s incentive auction rules ensure the continued viability of the white spaces in the remaining television broadcast bands during and after the incentive auction process.

**A. The Commission’s Decision to Open Up Unused Television Spectrum for Unlicensed Wireless Broadband Will Bring Enormous Benefits.**

As the Commission has recognized, white spaces networks will provide substantial benefits to American consumers. Among other things, access to the white spaces will result in more pervasive and powerful broadband connections with “extended range, fewer dead spots, and improved individual speeds” and reduced congestion on existing networks.<sup>166</sup> Indeed, the many white spaces pilot programs already underway confirm that unlicensed access to this beachfront spectrum will enable developers to create many innovative applications.

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<sup>165</sup> NPRM ¶ 1.

<sup>166</sup> *Unlicensed Operation of the TV Broadcast Bands*, Second Memorandum Opinion and Order, 25 FCC Rcd. 18661, 18662 (2010) (“*White Spaces Second M&O*”).

The “opportunistic” spectrum use enabled by the FCC’s white spaces rules also creates a framework for more efficient spectrum use in other frequency bands.<sup>167</sup> For example, according to the President’s Council of Advisors on Science and Technology, “the extension of today’s emerging White Spaces based wireless systems into the broader and more complex dynamic shared spectral domains offers immediate and compelling uses” to meet increasing spectrum demand.<sup>168</sup>

The Commission already has devoted substantial resources to white spaces deployment, including conducting multiple workshops on database performance and administration,<sup>169</sup> testing and approving database administrators for commercial use,<sup>170</sup> and certifying white spaces equipment for marketing and use.<sup>171</sup> In parallel, industry has made substantial investments in reliance on the FCC’s approval of TV Band White Space devices, and is continuing to develop innovative white spaces solutions. Indeed, the IEEE has already finalized one standard for white spaces operation (IEEE 802.22) and is nearing completion of another (IEEE 802.11af).<sup>172</sup> IEEE standardization brings many important benefits for emerging technologies, including

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<sup>167</sup> *Id.*

<sup>168</sup> *PCAST Spectrum Report* at 132.

<sup>169</sup> See generally FCC Office of Engineering and Technology, White Space Database Administration, <http://www.fcc.gov/encyclopedia/white-space-database-administration>.

<sup>170</sup> See Public Notice, Office of Engineering and Technology Announces the Approval of Telcordia Technologies, Inc.’s TV Bands Database System for Operation, ET Docket No. 04-186 (rel. Mar. 26, 2012) (“Spectrum Bridge PN”); Public Notice, Office of Engineering and Technology Announces the Approval of Spectrum Bridge, Inc.’s TV Bands Database System for Operation, ET Docket No. 04-186 (rel. Dec. 22, 2011) (“Telcordia PN”).

<sup>171</sup> See Spectrum Bridge PN; Telcordia PN.

<sup>172</sup> See IEEE 802.22 Working Group on Wireless Regional Area Networks, <http://www.ieee802.org/22/>; Official IEEE 802.11 Working Group Project Timelines, [http://grouper.ieee.org/groups/802/11/Reports/802.11\\_Timelines.htm#tgaf](http://grouper.ieee.org/groups/802/11/Reports/802.11_Timelines.htm#tgaf).

interoperability for equipment, economies of scale that result in reduced product costs, and best practices to facilitate rapid development and deployment.

The FCC finalized the rules for white spaces devices less than a year ago, in April 2012, and authorized nationwide use of devices just late last year.<sup>173</sup> It approved the first database providers, which are required under the rules for any white spaces device to operate, in December 2011 and March 2012.<sup>174</sup> This all means that, as a practical matter, users could not take advantage of TV Band White Space technology nationwide until very recently. That white spaces devices are becoming available at the same time that the FCC authorized their nationwide use should not be a surprise. Indeed, this timeline confirms that the technology will bring great value to consumers if given adequate spectrum and regulatory certainty.

**B. The Commission's Repacking Methodology Should Specifically Account for Unlicensed White Space Use as an Input.**

The NPRM seeks comment on “how to best preserve and improve the use of the unused spectrum in the broadcast television bands for unlicensed operations.”<sup>175</sup> One of the most important tools the Commission will have to achieve this goal is the repacking methodology used to assign television stations in the remaining TV broadcast spectrum.<sup>176</sup> As the NPRM explains, repacking television stations is “analogous to the process of packing boxes into a trunk when

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<sup>173</sup> See generally *Unlicensed Operation in the Television Broadcast Bands*, Third Memorandum Opinion and Order, 27 FCC Rcd. 3692 (2012) (“*Third White Spaces Report & Order*”). In December 2012, the FCC authorized nationwide use of the wireless microphone registration system. This authorization allows database administrators to collect a key input for availability calculations. Before the authorization was issued, nationwide use of the databases was not practicable. Public Notice, Office of Engineering and Technology and Wireless Telecommunications Bureau Announce Nationwide Launch of Unlicensed Wireless Microphone Registration System, ET Docket No. 04-186 (rel. Dec. 6, 2012).

<sup>174</sup> See Spectrum Bridge PN; Telcordia PN.

<sup>175</sup> NPRM ¶ 227.

<sup>176</sup> See *id.* ¶¶ 43-50.

these boxes have different sizes and values.”<sup>177</sup> In determining how best to pack the trunk, the Commission’s methodology should specifically take into account the value of unlicensed white space use and adopt criteria that will ensure maximum utility of the remaining white spaces.

The NPRM recognizes that “white space spectrum ... will continue to exist after the repacking of the broadcast services.”<sup>178</sup> This is true for two reasons. First, in many markets, there will be several vacant television channels even after spectrum is deployed for the new 600 MHz band. Second, “the Commission’s Part 73 rules restrict digital television stations from being placed on co- and adjacent channels, but do not restrict the placement of stations if they are separated by 6 megahertz or greater of spectrum.”<sup>179</sup>

The FCC’s repacking methodology should not be designed merely to yield the minimum number of white spaces that persist for these reasons, however. Instead, the methodology should assign value to the preservation of white spaces for their own sake as well, because of the substantial benefits to consumers, innovation, and economic growth described above and relied on by the Commission in adopting the recent white spaces orders.<sup>180</sup>

Furthermore, white spaces will facilitate the incentive auction process. As the Commission has explained, the repacking procedure must be both efficient and fast.<sup>181</sup> Accommodating additional white spaces serves each of these goals by removing the need to design and implement a complicated repacking methodology that forces large numbers of

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<sup>177</sup> *Id.* ¶ 43.

<sup>178</sup> *Id.* ¶ 126 n.198.

<sup>179</sup> *See id.* ¶ 156 n.239 (citing 47 C.F.R. § 73.623 (c)(2)).

<sup>180</sup> *See Third White Spaces Report & Order; White Spaces Second M&O; White Spaces Second Report & Order; White Spaces First Report & Order.* TV white spaces, moreover, are not subject to the Spectrum Act’s “technically reasonable” provision.

<sup>181</sup> *See NPRM* ¶ 45.

broadcasters to engage in costly and disruptive relocations with the aim of obtaining the absolute minimum number of vacant channels at the end of the process. Indeed, attempting to achieve the theoretically tightest repacking would be ill-advised—and perhaps entirely futile—given the multiple reverse auction bid options available to broadcasters who wish to participate ( e.g. license termination bid, UHF to VHF bid, channel sharing bid) and the fact that the reverse and forward auctions must occur at the same time.<sup>182</sup>

Additionally, as the Commission contemplates channel assignments in the remaining TV band spectrum, it should be mindful that not all white spaces are created equal. For example, personal/portable white space devices can access vacant television channels that are adjacent to broadcast stations operating above 512 MHz, but first adjacent white spaces located below 512 MHz cannot be used by any white space device.<sup>183</sup> Similarly, if there are three white space channels in a row, the Commission's rules enable use of higher power fixed/access devices.<sup>184</sup> Thus, in less populated areas with substantial vacant television spectrum, groupings of three or more white space channels are substantially more useful than groupings of two channels. The Commission should maximize the value of the remaining TV band spectrum by taking these considerations into account as it repacks the band by explicitly building these facts into the repacking methodology.

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<sup>182</sup> See Spectrum Act § 6403(a)(2).

<sup>183</sup> See 47 C.F.R. §§ 15.703(i); 15.712(a)(2).

<sup>184</sup> See 47 C.F.R. § 15.712(a)(2) (excluding fixed white space operations for both co-channel and first adjacent channel stations).

**VI. THE FCC SHOULD ADOPT WIRELESS MICROPHONES RULES THAT PROMOTE THE EFFICIENT AND INTENSIVE USE OF THE 600 MHZ BAND.**

**A. The Commission Should Allow Unlicensed Devices to Operate in the Two Channels Currently Reserved for Wireless Microphones.**

Under the Commission's existing rules, white space devices must avoid the first vacant channels immediately above and below Channel 37 in order to accommodate legacy wireless microphone systems.<sup>185</sup> As a result, 12 MHz of extremely valuable spectrum often are left bereft of broadband services that tens of millions of consumers could use. The result is a huge loss of utility—and is flatly inconsistent with the Commission's goal in this proceeding of "preserv[ing] and improv[ing] the use of unused spectrum in the broadcast television bands for unlicensed operations."<sup>186</sup>

Google and Microsoft therefore urge the Commission to make the two channels currently designated for wireless microphone use available for white space devices, as proposed in the NPRM.<sup>187</sup> Unlicensed devices and wireless microphones can share the two channels currently reserved for exclusive wireless microphone use if the FCC designates both channels for wireless microphone use as well as unlicensed use, rather than eliminating the current designation completely. This approach will ensure that Part 74 wireless microphone users will always have two channels where they can be assured of primary rights through a white spaces database, and both non-Part-74 wireless microphone users and users of white spaces devices will have access

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<sup>185</sup> See 47 C.F.R. §15.707(a).

<sup>186</sup> NPRM ¶ 227. The Commission has concluded that legacy wireless microphone systems are a "very inefficient use of valuable spectrum." Public Notice, The Wireless Telecommunications Bureau and the Office of Engineering and Technology Seek to Update and Refresh Record in the Wireless Microphones Proceeding, WT Docket Nos. 08-166, 08-167, ET Docket No. 10-24, 27 FCC Rcd. 12067 (rel. Oct. 5, 2012) ("Wireless Mic PN").

<sup>187</sup> NPRM ¶ 9.



to these channels on an unlicensed basis. This will properly balance the goal of ensuring wireless microphone users have a migration path after the incentive auction and the goal of substantially improving spectral efficiency and intensity of use.

If the Commission adopts this approach, wireless microphone users will retain many frequency options after the incentive auction. Microphone users will have access to (1) the two channels currently designated for their exclusive use (as described above); (2) other white spaces in the broadcast band; (3) other frequency bands including Part 90 frequencies, the 900 MHz band, the 2.4 GHz band; and, as discussed below, (4) co-channel operation with television channels.

**B. UHF Band Wireless Microphones Should Be Eligible to Operate Co-Channel with Remaining Broadcasters Because This Would Promote Efficient Spectrum Use Without Undermining Incumbent Operations.**

Finally, the Commission seeks comment on whether it should enable wireless microphones to operate on a co-channel basis with television stations under certain circumstances.<sup>188</sup> As the Commission notes, doing so could “enable intensive use by wireless microphones of the broadcast television spectrum that is not available for white space devices.”<sup>189</sup> Developments in the white spaces proceeding confirmed that co-channel operation of wireless microphones is commonplace. The Commission’s rules should legitimize this longstanding practice, which will promote efficient spectrum use without harming incumbent broadcasters.

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<sup>188</sup> *Id.* ¶ 225.

<sup>189</sup> *Id.*

The NPRM seeks comment on appropriate operating parameters under which co-channel operations could be permitted.<sup>190</sup> The best way to determine these parameters is to invite wireless microphone users to submit information about their current co-channel uses without fear of an enforcement action.

Co-channel operations are occurring, and are widespread. This point was amply illustrated during the field tests performed by the Office of Engineering and Technology in the white spaces proceeding. On two separate occasions, in midtown Manhattan and at FedEx Field in Landover, MD, wireless microphone operators transmitted on the same channels as occupied television stations while in the presence of FCC engineers.<sup>191</sup> In fact, one of the channels used by wireless microphones at FedEx Field was the very channel used to carry the high definition broadcast of the football game taking place that day.<sup>192</sup>

In addition, the wireless microphone industry has recently told the Office of Engineering and Technology that wireless microphones which operate on VHF television channels are not typically available.<sup>193</sup> This fact further underscores that co-channel operation takes place routinely. For example, in New York City's theatre district, two UHF channels in addition to the two channels currently reserved for wireless microphones are available, which translates to

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<sup>190</sup> *Id.*

<sup>191</sup> Letter from Edmond Thomas, Senior Technology Policy Advisor, White Spaces Coalition, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 04-186 (filed Aug. 19, 2008).

<sup>192</sup> *Id.* at 2.

<sup>193</sup> See Public Notice, Office of Engineering & Technology & Wireless Telecommunications Bureau Announce Nationwide Launch of Unlicensed Wireless Microphone Registration System, ET Docket No. 04-186 (rel. Dec. 6, 2012) ("It is our understanding at this time, through feedback from the wireless microphone industry, that as a practical matter there is very little professional quality equipment available in the VHF spectrum (Channels 2-13). Accordingly, we will not require that applicants use available VHF channels before requesting registration because such use is not generally 'practicable' at this time.").

24 to 32 available wireless microphone frequencies, assuming that legacy systems maximize the use of each TV channel. But given that users claim that even a single theatre operating on Broadway uses up to 40 frequencies during a performance,<sup>194</sup> and that a musical may use many more, literally thousands of co-channel operations occur every day.

The Commission should call for data about these operations and, given the lack of interference issues, legitimize the vast majority of them. Doing so will enable *de facto* channel reservations for Part 15 microphones without harming innovative broadband services, as white space devices will not operate on these channels.

## **VII. CONCLUSION.**

Google and Microsoft applaud the Commission for its efforts to make additional spectrum resources available through the world's first incentive auction. In designing rules in this proceeding, the FCC should support economic growth and technological innovation by continuing the Commission's long-term strategy of providing American consumers and businesses with both licensed and unlicensed spectrum. More specifically, the Commission should: (1) create a band plan with unlicensed designations that are large enough to support investment; (2) preserve white spaces in the remaining television broadcast bands; and (3) promote efficient use of the UHF spectrum by establishing new rules for wireless microphone operations. By taking these actions, the Commission can deliver the most value to American

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<sup>194</sup> Ex Parte Comments of the Broadway League, ET Docket No. 04-186, at 3 (filed Jun. 10, 2008).

consumers, produce enormous auction revenues, and provide innovators with a band that supports the next generation of wireless technologies.

Respectfully submitted,



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January 25, 2013

**APPENDIX:**  
**DECLARATION OF DAVID BORTH**

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of

Expanding the Economic and Innovation  
Opportunities of Spectrum Through Incentive  
Auctions

Docket No. 12-268

**DECLARATION OF DAVID BORTH**

1. My name is David Borth. I am a professor in the Department of Electrical and Computer Engineering at the University of Illinois-Chicago and a member of the National Academy of Engineering. I teach graduate communications theory courses, supervise Ph.D. students, and conduct research in the area of wireless communications. From 1980-2010 I worked for Motorola, Inc. in a number of positions: Corporate Vice President, Chief Technology Officer, and Director of Advanced Technology and Research and Emerging Business Office, Enterprise Mobility Solutions (2005-10); Corporate Vice President and Director, Wireless Access Research, Motorola Labs (2001-5); Vice President and Director, Communications Systems and Technologies Labs, Motorola Labs (1998-2001); Vice President and Director, Corporate Communications Systems Labs, Corporate R&D (1996-8); Manager, Communications Systems Research Lab, Corporate R&D (1990-6); and Technical Staff Member, Systems Research Lab (1980-90). I currently serve on the U.S. Department of Commerce Spectrum Management Advisory Committee, and I have served on the FCC's Technical Advisory Committee from 2005-6. I hold 113 patents worldwide, and received a B.S, M.S., and Ph.D in Electrical Engineering at the University of Illinois at Urbana-Champaign.

2. I have worked extensively on matters regarding wireless technologies, interference, network design, and spectrum management in general, and on matters regarding LTE, WiMAX, unlicensed standards such as Wi-Fi and Bluetooth, and the television white spaces in specific.

3. I have reviewed the FCC's Notice of Proposed Rulemaking ("NPRM") in this proceeding. This declaration contains my analysis of certain technical matters related to the Commission's consideration of certain questions contained in that NPRM.

#### **GUARD BAND/DUPLEX GAP DESIGN**

4. For a traditional FDD band plan, such as the band plan depicted in Figure 12 in the NPRM, a duplex gap of greater than 20 MHz is technically reasonable to prevent harmful interference between licensed services.

5. The NPRM notes that the LTE frequency band allocation with the smallest duplex gap in absolute terms is LTE Band 8. This band provides for separation of only 10 MHz, and results in degraded reference sensitivity of 3 dB; specifically, 3 dB worse than the LTE bands with the best reference sensitivities. In contrast, the NPRM observes that the "3GPP bands with the best reference sensitivities have duplex gaps of at least 28 megahertz and at least 1.4 times the pass band size ." NPRM ¶ 178 n. 262. These statements alone support the implementation of a duplex gap larger than 20 MHz as a technically reasonable measure to avoid harmful interference.

6. Duplex gap design necessarily involves a tradeoff between, on the one hand, the abruptness in the duplex filter transition from the pass band to the stop band where transmitters do not operate and, on the other hand, insertion loss in the pass band.

7. Insertion loss of the duplex filter contributes directly to the noise figure (*i.e.* the degradation of the signal to noise ratio) and, therefore, the ultimate sensitivity and performance of the receiver.

8. A smaller duplex gap would require the use of filters that could either substantially reduce the power of the desired signal (and therefore lead to inferior receiver performance), or the use of large and/or expensive filters that may increase cost to attempt to address the degraded interference environment.

9. For a given pass band, if the transition to the stop band is reduced, the insertion loss in the pass band will correspondingly increase. In contrast, a larger duplex gap increases the transition region of the stop band and lowers insertion loss.

10. Filter considerations are especially important for end user devices, where duplex filter design must emphasize size and cost of a filter along with filter performance.

11. Importantly, the duplexer, which separates transmit and receive spectrum, appears in a device's architecture after the antenna and before the receiver amplifier. Accordingly, insertion loss in the pass band that is created as a result of a smaller duplex gap cannot be remedied by other components in the device.

12. Because the LTE network architecture intensively reuses spectrum, any performance loss caused by a smaller duplex gap would be felt throughout the network, potentially significantly reducing system capacity.

13. Each of the above factors affects the appropriate size of the duplex gap, and should be examined by the Commission when determining duplex gap size.



14. The Commission's duplex gap should also account for spurious radiofrequency issues caused by third order ( $2f_1 \pm f_2$  or  $2f_2 \pm f_1$ ) intermodulation created by LTE transmissions entering the LTE receiver pass band. These intermodulation concerns are due to imperfections (specifically, nonlinearities) in transmitter amplifiers and/or receivers. Because intermodulation frequencies would fall in the receiver pass band, no amount of filtering could filter out these spurious/undesired signals.

15. Third order intermodulation issues can occur either at a base station or on an LTE device. At the base station, however, the presence of additional RF signals further complicates the intermodulation issue. The intermodulation issue alone would justify a gap that—at an absolute minimum—exceeds the pass band size, and taken with the other duplex gap considerations underscores the need for a reasonable duplex gap with characteristics similar to existing LTE bands with the best reference sensitivities.

16. Allowances for temperature and manufacturing variation in components can also affect the appropriate duplex gap determination. Indeed, typical temperature shifts are on the order of 200 ppm (or 0.02%) and manufacturing shifts are on the order of b(6) ppm (or 0.05-0.1%). Taken at their maximums, these considerations alone would require additional duplex gaps on the order of .12% —or an additional .72 MHz— for the duplexer, over and above what would otherwise be required.

#### **GUARD BAND BETWEEN 600 MHz DOWNLINK AND TELEVISION**

17. There is limited information available about interference susceptibility for DTV systems into LTE systems and for LTE systems into DTV systems.

18. The lack of such references hampers prediction of probable interference levels and, consequently, appropriate minimum guard band width determinations. Furthermore, to address the resulting uncertainty, the Commission should take particular care to ensure that enough spectrum is allocated to be confident of avoiding harmful interference.

19. I have reviewed filings in WT Docket No. 12-69, *Promoting Interoperability in the 700 MHz Commercial Spectrum*. One of the most significant concerns in that proceeding relates to reverse intermodulation interference to an LTE device transmitter caused by the presence of a strong DTV signal. In particular, the record demonstrates that even with a guard band separation of 6 or 12 MHz between the DTV transmitter frequency and the LTE device frequency *and* an LTE duplex gap separation of 24 MHz, significant LTE device receiver sensitivity degradation can occur over many square miles near the DTV transmitter.

20. I have also reviewed the University of Kansas TV Band Interference Study submitted by the New America Foundation in ET Docket No. 04-186, *Unlicensed Operation in the Television Broadcast Bands* (the "KU Study").

21. In the KU Study, measurements were made of several DTV receivers to characterize the adjacent and subsequent adjacent channel interference potential.

22. Specifically, the authors of the KU Study used a 6 MHz OFDM signal as an interfering signal to a DTV receiver that received a -68 dBm DTV signal, which they considered to be a weak signal for a consumer grade receiver. The authors intended the OFDM signal to be representative of modern Wi-Fi or WiMAX systems. Accordingly,

the results of this study are useful in this proceeding, as LTE signals can similarly employ OFDM modulation over a comparable bandwidth.

23. The KU Study found that, for a -68 dBm DTV signal level at the receiver, a -34 dBm OFDM signal in either of the adjacent 6 MHz channels or a -23 dBm signal level in any channel more than one TV channel away would cause a degraded DTV picture.

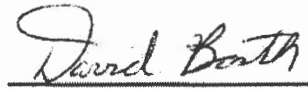
24. Thus, assuming a 600 MHz LTE base station with a transmit power of one kilowatt, for the DTV receivers examined in the KU Study, the LTE transmitter could cause observable interference to the DTV receiver at distances less than approximately 2,000 feet away from the DTV receiver (*i.e.* a free space path loss of less than 83 dB) even with a frequency separation of more than 6 MHz.

25. Because LTE base site transmitters operate in fixed locations, the interference into the DTV receiver might always be present.

26. The data provided by the KU Study therefore strongly suggest that there are real-world scenarios in which a guard band of greater than 6 MHz will be required to avoid harmful interference.

I, David Borth, declare under penalty of perjury that the foregoing declaration is true and correct.

Executed on January 25, 2013

  
David Borth

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**From:** Obi Felten (b) (6)  
**Sent:** Wednesday, February 13, 2013 12:43 PM  
**To:** Will Patrick  
**Cc:** Dorgelo, Cristin; Astro Teller; Megan Smith (b) (6)  
**Subject:** Re: moonshot thinking in SOTU

I love it.

On 13 February 2013 09:31, Will Patrick (b) (6) wrote:  
Last night after he said that I thought, "10 times better, eh? Nice work Tom & Cristin" : )

Cheers,  
Will

On Wed, Feb 13, 2013 at 9:28 AM, Dorgelo, Cristin (b) (6) wrote:

Google X moonshot team:

I'm sure you caught this in last night's SOTU, but in case it comes in handy as you spread the word about moonshots & making things 10x better, this paragraph from the President's address last night speaks to his commitment to pursuing audacious, game-changing goals (aka Grand Challenges & Moonshots) and to investing in research and development. One of the examples, the Brain Activity Map, is a Grand Challenge we've been developing with NIH/NINDS, neuroscientists, nanotechnologists, and private foundations.

"Now, if we want to make the best products, we also have to invest in the best ideas. Every dollar we invested to map the human genome returned \$140 to our economy -- every dollar. Today, our scientists are mapping the human brain to unlock the answers to Alzheimer's. They're developing drugs to regenerate damaged organs; devising new material to make batteries 10 times more powerful. Now is not the time to gut these job-creating investments in science and innovation. Now is the time to reach a level of research and development not seen since the height of the Space Race. We need to make those investments."

All best,

Cristin

Cristin Dorgelo

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Astro Teller [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 11:44 PM  
**To:** Dorgelo, Cristin  
**Cc:** Will Patrick; Megan Smith (b) (6) (b) (6)  
**Subject:** Re: SfX Class of 2013: Thanks for everything

Thanks for being part of the event, Cristin! It was great to have you there with us!

: )

Astro.

On Tue, Feb 12, 2013 at 4:40 PM, Dorgelo, Cristin (b) (6) wrote:

Will, Megan, Astro, Karishma, Obi:

Sincere thanks again for including me in last week's inspiring Solve for X event. Great gathering of minds and some fantastic talks (in particular, I thought Saul, Shawn, Andras, Bill, Wael, Geena, and Steve knocked their talks out of the park). I've shared the videos and the new Solve for X site with many of my White House OSTP colleagues already.

I look forward to collaborating again with your fantastic team as we move closer to a White House Grand Challenges event – I'll let you know that event date as soon as we know it here.

All best,

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Will Patrick [mailto:(b) (6)]

**Sent:** Monday, February 11, 2013 6:39 PM

**To:** (b) (6) Andras Forgacs; Shawn Douglas; Prashant K. Jain; Peter Diamandis; Steve Jurvetson; (b) (6) Ehsan Afshari; Austen Heinz; Mir Imran; Catteruccia, Dr Flaminia; Anna Patterson; Padmasree Warrior (pwarrior); Chase, Charles; Vinod Khosla; Catherine Mohr; Jeff Surma; Geena Davis; O 'Sullivan, Meghan; Nicholas Negroponte; Molly Morse; Marc Andreessen; (b) (6) (b) (6) Dorgelo, Cristin; (b) (6) Karishma Shah; Cady Coleman; Natalie Jeremijenko; (b) (6) Wael Ghonim; Bill Gross (b) (6) Black, Keith, L., M.D.; Regina Dugan; Cathy Zoi; Yoky matsuoka; Hermann Hauser; Rob Nail; Sergey Brin; (b) (6)  
**Cc:** Megan Smith; Obi Felten; Astro Teller; Kathy Cooper; Will Patrick; Rodney Brooks

**Subject:** SfX Class of 2013: Thanks for everything

SfX Class of 2013:

What an amazing three days. Thank you so much for joining us and being a part of our community. I feel very lucky to spend a portion of my day job helping to put this group together. As a young person, I feel awed by your intelligence & passion and inspired to do ever bigger and crazier things. Thank you for that!

A few things I wanted to share with you.

1. We announced the 2013 event and our new website ( [www.solveforx.com](http://www.solveforx.com)) & partnerships this morning on the official Google [blog](#) (which includes the 'moonshot thinking' video).
2. We literally just pushed (most) of the talks public. Here are the links:
  - [Astro & Megan](#) open Solve for X [will be [here](#)]
  - [Peter & Eric](#) on asteroid mining
  - [Eric's](#) introduction
  - [Rodney](#) on american manufacturing
  - [Shawn](#) on Targeted Therapeutics
  - [Charles](#) on compact fusion
  - [Danielle](#) on economical energy storage
  - [Andras](#) on sustainable, scalable meat
  - [Keith](#) on Alzheimer's diagnostics
  - [Sergey](#) on taking moonshots & the value of failing
  - [Geena](#) on gender inequality in media
  - [Austen](#) on democratizing creation
  - [Flaminia](#) on malaria eradication
  - [Prashant](#) on optical computing
  - [Bill](#) on solar cheaper than natural gas
  - [Saul](#) on inflatable robotics
  - [Molly](#) on replacing plastic
  - [Ehsan](#) on low-cost terahertz
  - [Jeff](#) on municipal waste to energy
  - [Natalie](#) on xDrones
  - [Steve Jurvetson](#) on the tech-accelerated rich poor gap [will be [here](#)]
3. We've started getting some press coverage ( [TechCrunch](#), [Verge](#), [Mashable](#)). We'd love your help with creating more buzz buzz buzz. For social media, try using #solveforx. If your company / organization would like to do any press, feel free to utilize the blog post as a starting point. I can also put you in touch with our comms team here at Google[x].
4. Check out Astro's [op-ed](#) in Wired.
5. We're looking for feedback! We'll send out a feedback form in the next couple days.
6. We're already searching for the next batch of moonshots for SfX 2014. What did we miss? Who should we be talking to? What moonshot idea should be represented on our stage?

Finally, the biggest outcomes of SfX 2012 came from the relationships created at the event ... I expect this year to be no different. Everyone who attended is on this email; don't be a stranger! Reach out to your fellow participants and continue the dialogue. Of course, you're more than welcome to reach out to me and anyone else on the Google[x] team (see cc'd list) for any reason.

Talk soon!

Cheers,

Will (on behalf of Astro, Megan and the rest of the SfX crew)

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- Astro



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**From:** Obi Felten (b) (6)  
**Sent:** Wednesday, February 13, 2013 1:09 PM  
**To:** Chokshi, Sonal; Dorgelo, Cristin  
**Subject:** Intro Cristin/Sonal

Cristin, Sonal edits Wired Opinion and published Astro's moonshot op-ed this week - she's planning to turn this into a series featuring thoughts on moonshots as well as individual moonshots. I'm super excited about this, I think it will be a great series.

Sonal, meet Cristin who runs Grand Challenges at the White House, and was one of my favourite people at the SfX event. She has some interesting views on government's role in facilitating moonshots, and I thought this might make another good op-ed for your moonshot series.

Even if you ladies decide that an op-ed isn't the right thing to do, I wanted you to meet since you are both great and I think you'd get on!

Obi

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**From:** Johanna Shelton (b) (6)  
**Sent:** Wednesday, February 13, 2013 1:15 PM  
**To:** Marvin Ammori; Edelman, R. David  
**Subject:** introduction & CFAA interest

Marvin - knowing of your interest in CFAA reform, i wanted to connect you with David Edelman who is interested in speaking to influentials in the debate.

David - Marvin's contact info is:

(b) (6)

(b) (6)

enjoy what i know will be a robust discussion :)

- Johanna

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

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**From:** Dorgelo, Cristin  
**Sent:** Wednesday, July 17, 2013 1:03 PM  
**To:** (b) (6)  
**Subject:** Declined: Invitation: HOLDING TIME - Maker Camp / NASA HOA sync @ Wed Jul 17, 2013 4:30pm - 4:55pm (b) (6)

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**From:** Dorgelo, Cristin  
**Sent:** Wednesday, July 17, 2013 1:29 PM  
**To:** Ali Schippers  
**Subject:** RE: [MAKER CAMP] NASA Field Trip, Friday 7/19

Here you go, this is the 20 sec clip on Grand Challenges  
[https://www.youtube.com/watch?feature=player\\_embedded&v=i6v5EFYnPjE](https://www.youtube.com/watch?feature=player_embedded&v=i6v5EFYnPjE)

We could also, if you want to, play this 1.5 min clip on the White House Science Fair (which features lots of makers!).

[https://www.youtube.com/watch?feature=player\\_embedded&v=T8Hb\\_Qh9O4A#at=37](https://www.youtube.com/watch?feature=player_embedded&v=T8Hb_Qh9O4A#at=37)

**From:** Ali Schippers [mailto: (b) (6)]  
**Sent:** Wednesday, July 17, 2013 11:18 AM  
**To:** Dorgelo, Cristin  
**Subject:** Re: [MAKER CAMP] NASA Field Trip, Friday 7/19

Hey Cristin,

I couldn't find the link for the Pres Obama clip on Grand Challenges (was that included in the ROS?). Can you resend to too please?

Thanks!

Ali

On Wed, Jul 17, 2013 at 10:03 AM, Dorgelo, Cristin (b) (6) wrote:

I can't do 4:30 today, but perhaps Phil Larson and or Sarah Becky can cover and report back.

RE: visual content: I included in the suggested revised ROS a video link with a Pres Obama clip on Grand Challenges, in case we are able to cut to that. And I can bring the piece of the Asteroid Vesta that we have at OSTP (thanks to NASA) that we can check out.

**From:** RAMSEY, SARAH R. (HQ-NA000) [mailto: (b) (6)]  
**Sent:** Wednesday, July 17, 2013 9:55 AM  
**To:** (b) (6) Dorgelo, Cristin

**Cc:** (b) (6) (b) (6) (b) (6) (b) (6)  
(b) (6) WORLEY, LAUREN B. (HQ-NA000); (b) (6)  
(b) (6) (b) (6) (b) (6) (b) (6) Larson,  
Phil; (b) (6) CULLER, JESSICA S. (ARC-VC); (b) (6) (b) (6)  
(b) (6) (b) (6) (b) (6) (b) (6) Jenn Gustetic (HQ-  
UA020)

**Subject:** Re: [MAKER CAMP] NASA Field Trip, Friday 7/19

NASA HQ can do 430pm ET. Jenn isn't in today, and so won't be on the call, but I'll fill her in.

As far as visuals: We have a few static props we can show, but nothing by way of demonstration for the asteroid grand challenge. Understand the need for the event to be visually dynamic, and we'll do our best, but we don't have "hands on" things to show right now.

Talk to you all at 430,  
Sarah

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**From:** Ali Schippers [mailto:(b) (6)]  
**Sent:** Wednesday, July 17, 2013 09:41 AM  
**To:** Dorgelo, Cristin (b) (6)  
**Cc:** Matthew Reyes (b) (6) Alex Lindsay (b) (6) George Ivanov  
(b) (6) Josanna Lewin (b) (6) Kyle Monson (b) (6)  
WORLEY, LAUREN B. (HQ-NA000); Michelle Hlubinka (b) (6) RAMSEY, SARAH R. (HQ-NA000);  
Shannon Cooper (b) (6) Sherry Huss (b) (6) Tara Yellen  
(b) (6) Tom Critchlow (b) (6) Larson, Phil  
(b) (6) Shannon Cooper (b) (6) CULLER, JESSICA S. (ARC-VC); Vickie  
Welch (b) (6) Shinghi Detlefsen (b) (6) Whitney Diehl  
(b) (6) Emmanuel Mota (b) (6) Lorraine Yurshansky (b) (6)  
Erik Katz (b) (6) Jenn Gustetic (HQ-UA020)  
**Subject:** Re: [MAKER CAMP] NASA Field Trip, Friday 7/19

Hi Cristin & team,

Thanks for getting back to us so quickly.

The proposed changes look good to me, however, I'll defer to Make for the final word and then we can update the ROS.

That said, just wanted to loop back on your thoughts on how we can keep the HOA tactile and visually dynamic. The content is super interesting, but as discussed on our initial call, are there props, demonstrations etc we can use to keep it visually interesting as well?

**Also, would 1:30 PT / 4:30 ET work for everyone for a call? Please let me know, as I know we have many schedules to accommodate.**

Best,

Ali

On Wed, Jul 17, 2013 at 9:29 AM, Dorgelo, Cristin (b) (6) wrote:

NASA HQ & White House OSTP would like to propose the attached revision to the ROS. Let us know if you have questions or concerns about this.

Ali, if you'd like to schedule a call for today, please let us know a proposed time as soon as you can as I may have to move my schedule around to accommodate.

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Matthew Reyes [mailto:(b) (6)]

**Sent:** Wednesday, July 17, 2013 6:04 AM

**To:** Ali Schippers

**Cc:** Dorgelo, Cristin; Alex Lindsay; George Ivanov; Josanna Lewin; Kyle Monson; LAUREN B. WORLEY (HQ -NA000); Michelle Hlubinka; SARAH R. RAMSEY (HQ-NA000); Shannon Cooper; Sherry Huss; Tara Yellen; Tom Critchlow; Larson, Phil; Shannon Cooper; Jessica Culler; Vickie Welch; Shinghi Detlefsen; Whitney Diehl; Emmanuel Mota; Lorraine Yurshansky; Erik Katz

**Subject:** Re: [MAKER CAMP] NASA Field Trip, Friday 7/19

Howdy folks,

Thanks for the run of show. I need to stress that we have not verified a final list of presenters for the Maker Camp section to be held in the SpaceShop. The content listed on the attached RoS should be therefore regarded as tentative. This is particularly important regarding BioBricks and the ISS Animal Enclosure filtration projects.

Now that I know that we have a 30 minute time block instead of one hour, I can finally work with the NASA Ames team to confirm who will be speaking. I hope to share that finalized information before Thursday.

Thanks

Matt

Matthew F. Reyes  
Exploration Solutions, Inc.  
[twitter.com/motorbikematt](https://twitter.com/motorbikematt)

On Tue, Jul 16, 2013 at 6:53 PM, Ali Schippers (b) (6) wrote:

Hi All,

Enclosed please find the working ROS (as previously provided by Make).. Here is a link to the Google doc as well.

We should all plan to jump on a call tomorrow afternoon to discuss and finalize. Please let us know if you have any questions.

Best,

Ali

On Tue, Jul 16, 2013 at 6:25 PM, Dorgelo, Cristin (b) (6) wrote:

I am checking in on status of Run of Show. Can we expect this today?

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Ali Schippers [mailto:(b) (6)]

**Sent:** Monday, July 15, 2013 5:38 PM

**To:** Alex Lindsay; George Ivanov; Josanna Lewin; Kyle Monson; LAUREN B. WORLEY (HQ -NA000); Michelle Hlubinka; SARAH R. RAMSEY (HQ -NA000); Shannon Cooper; Sherry Huss; Tara Yellen; Tom



Critchlow; Dorgelo, Cristin; Larson, Phil; Shannon Cooper; Matthew Reyes; Jessica Culler; Vickie Welch; Shinghi Detlefsen; Whitney Diehl; Emmanuel Mota

**Cc:** Lorraine Yurshansky

**Subject:** Re: [MAKER CAMP] NASA Field Trip, Friday 7/19

Hi All,

Just a quick update. Em, from Make, will follow -up tomorrow with the Run of Show.

Thanks!

Best,

Ali

On Mon, Jul 15, 2013 at 11:42 AM, Ali Schippers (b) (6) wrote:

Hi All,

Tom, Kyle and I are regrouping with MAKE today on our NASA Field Trip schedule for this Friday, 7/19. I'll regroup with everyone by EOB with an update, work in progress Run of Show and any other relevant information.

Please feel free to reach out to me directly with any questions, thanks!

Best,

Ali

ps, please let me know if I've let anyone off this chain and I will add them to the update.

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**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

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**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

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**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

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**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

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**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

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**From:** Dorgelo, Cristin  
**Sent:** Wednesday, July 17, 2013 4:20 PM  
**To:** Kyle Monson (Google Drive)  
**Subject:** RE: NASA Field Trip Promo Copy (b) (6)

Hi Kyle:

Most of us at the White House can't access google docs. : -(  
Possible to email as an attachment? Sorry for the hassle!

Cristin

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**From:** Kyle Monson (Google Drive) [mailto:(b) (6)]

**Sent:** Wednesday, July 17, 2013 4:05 PM

**To:** Dorgelo, Cristin

**Cc** (b) (6) (b) (6) Larson, Phil (b) (6) (b) (6)

(b) (6) (b) (6) (b) (6) (b) (6)

(b) (6) (b) (6) (b) (6) (b) (6)

(b) (6) (b) (6) (b) (6) (b) (6)

(b) (6) (b) (6) (b) (6) (b) (6)

(b) (6)

**Subject:** NASA Field Trip Promo Copy (b) (6)

I've shared an item with you.

Hi all, some of you were asking for promo copy for Friday's Maker Camp Field Trip. We have some sample tweets, PR messaging, and even some shareable promo graphics in this doc. Feel free to pull anything you need, and if there's anything else we can provide, say the word!

Would be great if we can take a few minutes in this afternoon's meeting to talk promotion as well.



NASA Field Trip Promo Copy

Google Drive: create, share, and keep all your stuff in one place.



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**From:** Dorgelo, Cristin  
**Sent:** Thursday, July 18, 2013 1:51 PM  
**To:** Ali Schippers  
**Subject:** RE: [MAKER CAMP] NASA / OSTP HOA, PROMO MATERIALS

Any resolution on whether or not we'll use one or both of those video links I sent you?

**From:** Ali Schippers [mailto:(b) (6)]  
**Sent:** Thursday, July 18, 2013 12:01 PM  
**To:** CULLER, JESSICA S. (ARC-VC)  
**Cc:** RAMSEY, SARAH R. (HQ-NA000); Dorgelo, Cristin (b) (6); (b) (6); (b) (6); (b) (6); WORLEY, LAUREN B. (HQ-NA000); (b) (6); (b) (6); (b) (6); (b) (6); (b) (6); Larson, Phil (b) (6); (b) (6); (b) (6); (b) (6); Jenn Gustetic (HQ-UA020)  
**Subject:** [MAKER CAMP] NASA / OSTP HOA, PROMO MATERIALS

Hi Everyone,

Just wanted to loop back with a shareable link for our HOA tomorrow, [here](#). Share away!

We've updated the NASA Field Trip promo copy per everyone's specs in [this](#) doc (also attached in doc form for WHOSTP folks). Please feel free to share across so cial media platforms. Just a reminder, the YT page will be disabled for comments during the HOA.

Please let us know if you have any questions, thanks!

Best,  
Ali, Kyle & Tom

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**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

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**From:** Vint Cerf (b) (6)  
**Sent:** Thursday, February 14, 2013 5:15 PM  
**To:** Holdren, John P.  
**Subject:** great hangout with President Obama

Watching the hangout - this is an amazing way to highlight a president who is unafraid to engage with the general public - wow!!!

vint

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**From:** Obi Felten (b) (6)  
**Sent:** Thursday, February 14, 2013 9:11 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: moonshot thinking in SOTU

OK great.

On 13 February 2013 16:38, Dorgelo, Cristin (b) (6) wrote:

Obi:

Awesome – agreed, really enjoyed your company at Sfx.

Thanks for the connect to Sonal, I will follow up with her!

I'll know more about my March schedule over the next couple of weeks...while I won't be at SXSW this year, I may overlap with you in NYC. If not, we'll set up a time for a call.

Till soon,

Cristin

**From:** Obi Felten [mailto:(b) (6)]  
**Sent:** Wednesday, February 13, 2013 1:05 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: moonshot thinking in SOTU

Cristin

I love it! Reference to 10x, reference to space programme...

So glad we met at SfX, you were definitely one of my favourite people there. I would love to connect soon, either on the phone or when we are next in the same area. I am going to SXSW 12 -14 Mar (exact dates still tbc), and will be in NYC the week of 25th of March. My friend Nilofer Merchant is organising a women event, see [here](#). Let me know if you'd be interested in coming, Nilofer is a serious networker and promised to bring some interesting/nice people to it.

I'll work from NYC that week.

Also, separately: We've been talking to Sonal Chokshi, the editor of Wired Opinion, about a moonshot op -ed series following the first one by [Astro](#) (which she edited). We will connect her with some of the SfX speakers, but it occurred to me that you would also be brilliantly positioned to write an op -ed in the series. I'll connect you with her, she's a really wonderful woman, so even if you two decide the op -ed isn't right at least you will have met!

Obi

On 13 February 2013 09:28, Dorgelo, Cristin (b) (6) wrote:

Google X moonshot team:

I'm sure you caught this in last night's SOTU, but in case it comes in handy as you spread the word about moonshots & making things 10x better, this paragraph from the President's address last night speaks to his commitment to pursuing audacious, game-changing goals (aka Grand Challenges & Moonshots) and to investing in research and development. One of the examples, the [Brain Activity Map](#), is a Grand Challenge we've been developing with NIH/NINDS, neuroscientists, nanotechnologists, and private foundations.

"Now, if we want to make the best products, we also have to invest in the best ideas. Every dollar we invested to map the human genome returned \$140 to our economy -- every dollar. Today, our scientists are mapping the human brain to unlock the answers to Alzheimer's. They're developing drugs to regenerate damaged organs; devising new material to make batteries 10 times more powerful. Now is not the time to gut these job-creating investments in science and innovation. Now is the time to reach a level of research and development not seen since the height of the Space Race. We need to make those investments."

All best,

Cristin

Cristin Dorgelo

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Astro Teller [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 11:44 PM  
**To:** Dorgelo, Cristin  
**Cc:** Will Patrick; Megan Smith (b) (6) (b) (6)  
**Subject:** Re: SfX Class of 2013: Thanks for everything

Thanks for being part of the event, Cristin! It was great to have you there with us!

: )

Astro.

On Tue, Feb 12, 2013 at 4:40 PM, Dorgelo, Cristin (b) (6) wrote:

Will, Megan, Astro, Karishma, Obi:

Sincere thanks again for including me in last week's inspiring Solve for X event. Great gathering of minds and some fantastic talks (in particular, I thought Saul, Shawn, Andras, Bill, Wael, Geena, and Steve knocked their talks out of the park). I've shared the videos and the new Solve for X site with many of my White House OSTP colleagues already.



I look forward to collaborating again with your fantastic team as we move closer to a White House Grand Challenges event – I'll let you know that event date as soon as we know it here.

All best,

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Will Patrick [mailto:(b) (6)]

**Sent:** Monday, February 11, 2013 6:39 PM

**To:** (b) (6) Andras Forgacs; Shawn Douglas; Prashant K. Jain; Peter Diamandi s; Steve Jurvetson; (b) (6) Ehsan Afshari; Austen Heinz; Mir Imran; Catteruccia, Dr Flaminia; Anna Patterson; Padmasree Warrior (pwarrior); Chase, Charles; Vinod Khosla; Catherine Mohr; Jeff S urma; Geena Davis; O'Sullivan, Meghan; Nicholas Negroponte; Molly Morse; Marc Andreessen; (b) (6) (b) (6) Dorgelo, Cristin; (b) (6) Karishma Shah; Cady Coleman; Natalie Jeremijenko; (b) (6) Wael Ghonim; Bill Gross (b) (6) Black, Keith, L., M.D.; Regina Dugan; Cathy Zoi; Yoky matsuoka; Hermann Hauser; Rob Nail; Sergey Brin; (b) (6)

**Cc:** Megan Smith; Obi Felten; Astro Teller; Kathy Cooper; Will Patrick; Rodney Brooks

**Subject:** SfX Class of 2013: Thanks for everything

SfX Class of 2013:

What an amazing three days. Thank you so much for joining us and being a part of our community. I feel very lucky to spend a portion of my day job helping to put this group together. As a young person, I feel awed by your intelligence & passion and inspired to do ever bigger and crazier things. Thank you for that!

A few things I wanted to share with you.

1. We announced the 2013 event and our new website ( [www.solveforx.com](http://www.solveforx.com)) & partnerships this morning on the official Google [blog](#) (which includes the 'moonshot thinking' video).
2. We literally just pushed (most) of the talks public. Here are the links:
  - [Astro & Megan](#) open Solve for X [will be [here](#)]
  - [Peter & Eric](#) on asteroid mining
  - [Eric's](#) introduction
  - [Rodney](#) on american manufacturing
  - [Shawn](#) on Targeted Therapeutics
  - [Charles](#) on compact fusion
  - [Danielle](#) on economical energy storage
  - [Andras](#) on sustainable, scalable meat
  - [Keith](#) on Alzheimer's diagnostics
  - [Sergey](#) on taking moonshots & the value of failing
  - [Geena](#) on gender inequality in media
  - [Austen](#) on democratizing creation
  - [Flaminia](#) on malaria eradication
  - [Prashant](#) on optical computing
  - [Bill](#) on solar cheaper than natural gas
  - [Saul](#) on inflatable robotics
  - [Molly](#) on replacing plastic
  - [Ehsan](#) on low-cost terahertz
  - [Jeff](#) on municipal waste to energy
  - [Natalie](#) on xDrones
  - [Steve Jurvetson](#) on the tech-accelerated rich poor gap [will be [here](#)]
3. We've started getting some press coverage ( [TechCrunch](#), [Verge](#), [Mashable](#)). We'd love your help with creating more buzz buzz buzz. For social media, try using #solveforx. If your company / organization would like to do any press, feel free to utilize the blog post as a starting point. I can also put you in touch with our comms team here at Google[x].
4. Check out Astro's [op-ed](#) in Wired.
5. We're looking for feedback! We'll send out a feedback form in the next couple days.
6. We're already searching for the next batch of moonshots for SfX 2014. What did we miss? Who should we be talking to? What moonshot idea should be represented on our stage?

Finally, the biggest outcomes of SfX 2012 came from the relationships created at the event ... I expect this year to be no different. Everyone who attended is on this email; don't be a stranger! Reach out to your fellow participants and continue the dialogue. Of course, you're more than welcome to reach out to me and anyone else on the Google[x] team (see cc'd list) for any reason.

Talk soon!

Cheers,

Will (on behalf of Astro, Megan and the rest of the SfX crew)

--

- Astro

---

**From:** Dorgelo, Cristin  
**Sent:** Friday, July 19, 2013 11:06 AM  
**To:** Ali Schippers  
**Subject:** RE: [MAKER CAMP] NASA / OSTP HOA, PROMO MATERIALS

My one request – can we put the Grand Challenges b-roll with Obama after my intro on OSTP/Grand Challenges? It sets the stage for why we're doing things like the Asteroid Grand Challenge.

We can keep the Science Fair clip before the Q&A.

Would that work?  
Thanks!

**From:** Ali Schippers [mailto:(b) (6)]  
**Sent:** Thursday, July 18, 2013 7:34 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: [MAKER CAMP] NASA / OSTP HOA, PROMO MATERIALS

Hi Cristin,

I just received confirmation from Em that they do plan to include the two clips you provided after the OSTP intro and Asteroid Grand Challenge discussion but before the Q&A section.

I've attached a copy of Em's ROS here. It's a bit technical, so please let me know if you have any questions!

Thanks,  
Ali

On Thu, Jul 18, 2013 at 1:55 PM, Ali Schippers (b) (6) wrote:  
Hi Cristin,

Thanks for following up. The call reviewing ROS went well yesterday (and helps that your team and NASA HQ are so on top of things!). Em, from Make, is responsible for finalizing the ROS. I've shared the clips with them and suggested using them to break up your portion of the HOA. I'll follow up in an email to everyone to make sure we'll see something by EOB.

Thanks!

Best,  
Ali

On Thu, Jul 18, 2013 at 1:50 PM, Dorgelo, Cristin (b) (6) wrote:

Any resolution on whether or not we'll use one or both of those video links I sent you?

**From:** Ali Schippers [mailto:(b) (6)]  
**Sent:** Thursday, July 18, 2013 12:01 PM  
**To:** CULLER, JESSICA S. (ARC-VC)  
**Cc:** RAMSEY, SARAH R. (HQ-NA000); Dorgelo, Cristin (b) (6); (b) (6);  
(b) (6); (b) (6); (b) (6); WORLEY, LAUREN B. (HQ-NA000);  
(b) (6); (b) (6); (b) (6); (b) (6);  
(b) (6); Larson, Phil (b) (6); (b) (6); (b) (6);  
(b) (6); (b) (6); (b) (6); (b) (6); Jenn Gustetic (HQ-UA020)  
**Subject:** [MAKER CAMP] NASA / OSTP HOA, PROMO MATERIALS

Hi Everyone,

Just wanted to loop back with a shareable link for our HOA tomorrow, [here](#). Share away!

We've updated the NASA Field Trip promo copy per everyone's specs in [this](#) doc (also attached in doc form for WHOSTP folks). Please feel free to share across social media platforms. Just a reminder, the YT page will be disabled for comments during the HOA.

Please let us know if you have any questions, thanks!

Best,

Ali, Kyle & Tom

--

Ali Schippers | Producer, Google Creative Lab | m (b) (6)

--

Ali Schippers | Producer, Google Creative Lab | m (b) (6)

--  
**Ali Schippers** | Producer, Google Creative Lab | m (b) (6)

---

**From:** Vint Cerf (b) (6)  
**Sent:** Sunday, February 17, 2013 8:55 AM  
**To:** Holdren, John P.  
**Subject:** A book for the President

John,

Peter Badges is a professional photographer who has produced a remarkable book of photographs of all the living nobel prize winners. This weighty tome includes a photo of President Obama.

The photographer is based in Germany but has asked whether it is possible to obtain permission to present the volume to the President in person. How would I best go about presenting that request?

thanks

vint

---

**From:** Jacquelline Fuller (b) (6)  
**Sent:** Tuesday, February 19, 2013 3:00 PM  
**To:** Kalil, Thomas A.; Abigail Sassoon  
**Cc:** Eric Schwarz; Greenblatt, Jonathan  
**Subject:** Re: STEM Corps

David sent a note and put me in touch with Mike. Sounds very interesting and I look forward to hearing more. I'm in NY Thursday and Friday so a video MTG may be our best option.

Abby can help us find a time.

On Feb 19, 2013 9:36 AM, "Kalil, Thomas A." (b) (6) wrote:

Dear Jacqueline:

Jonathan Greenblatt and I have been working together to develop and launch a "STEM Corps" initiative. Mike Strautmanis (a senior White House aide in our Office of Public Engagement) has been in touch with David Drummond about the possibility of Google playing a leadership role in this.

Eric Schwarz of Citizen Schools and I will both be in the Bay Area on Friday afternoon, and would love to see if there is a time we could meet to discuss.

All the best,

Tom

**From:** Jacquelline Fuller [mailto:(b) (6)]  
**Sent:** Friday, June 01, 2012 8:13 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: Civic innovation

Tom,

Thanks so much for taking time to come by and think big thoughts on Civic Innovation with the Googlers. I'll share this with the rest of the team. We will be in touch and I hope we can find something like a Grand



Challenge to partner on (btw spoke with Regina today who wants to do a Google/Moto GC after your conversation).

On Fri, Jun 1, 2012 at 3:49 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Jacqueline:

Great to spend some time with you and the team! Let me know if there any ideas we discussed that we'd like to follow up on.

You might be interested in this collaboration we did with ASU and a presentation I gave on expanding informed participation.

<http://www.whitehouse.gov/blog/2012/06/01/startup-america-policy-challenge-tapping-citizen-solvers-drive-innovation>

<http://www.whitehouse.gov/sites/default/files/microsites/ostp/kalil-participation.pdf>

All the best,

Tom

--

Jacqueline Fuller	Director, Charitable Giving and Advocacy	(b) (6)	650-450-
0329			

If you received this communication by mistake, please don't forward it to anyone else (it may contain confidential or privileged information), please erase all copies of it, including all attachments, and please let the sender know it went to the wrong person. Thanks.

---

**From:** Eric Schmidt (b) (6)  
**Sent:** Tuesday, February 19, 2013 7:38 PM  
**To:** Holdren, John P.; Eric Lander  
**Subject:** Fwd: PCAST going forward

I'm happy you both are continuing.

I'm also happy to continue. Thanks Eric

Begin forwarded message:

**From:** "Holdren, John P." (b) (6)  
**Subject:** PCAST going forward  
**Date:** February 19, 2013 2:04:30 PM PST  
**To:** Ahmed Zewail (b) (6) "Scholz, Amber Hartman"  
(b) (6) Barbara Schaal <[schaal@biology2.wustl.edu](mailto:schaal@biology2.wustl.edu)>; Chad  
Mirkin (b) (6) Christine Cassel (b) (6)  
Christopher Chyba (b) (6) Craig Mundie (b) (6)  
Daniel Schrag (b) (6) "David E. Shaw"  
(b) (6) "Ed Penhoet (b) (6)  
(b) (6) "Eric Lander (b) (6)  
(b) (6) Eric Schmidt (b) (6) Ernest Moniz  
(b) (6) "Holdren, John P." (b) (6) "Pitzer,  
Karrie S." (b) (6) "Ford, Knatokie"  
(b) (6) Mario Molina (b) (6) "Mark  
Gorenberg" (b) (6) Maxine Savitz (b) (6)  
Richard Levin (b) (6) Rosina Bierbaum (b) (6) "S.  
James Gates Jr." (b) (6) Shirley Ann Jackson (b) (6)  
William Press (b) (6)

Dear Colleagues --

Although this is not yet for broadcast beyond our inner circle, the two of us are happy now to be able to let you know that we are both continuing our OSTP and PCAST roles into the second term. As you know, the President's priorities going forward track very closely with a number of the science and technology issues on which PCAST has been engaged, and he is eager to continue to draw on our group's ideas and expertise. (Beyond his comments to this effect at our meeting with him at the end of November -- and numerous statements he's made about this to John and other senior WH staff since -- a further indication is that he has agreed to meet with the group again at our meeting on March 14!)

As you also know, the President said when we were with him in November that he would be pleased to have all of the members of PCAST continue, while recognizing that changes in personal priorities and circumstances might cause some to want to rotate off. Since then, our colleague David Shaw has decided to retire from

PCAST in order to focus more intensely on his research. A couple of others have indicated to one or both of us that they were unsure about whether or not they would continue. Now that your Co-Chairs can certify that we're staying in place, we'd like to ask all of you to let us know your own intentions so we can move ahead with recruiting whatever replacements will be needed.

This has been an incredibly productive as well as collegial PCAST, and we are grateful indeed for the service of each and every one of you. We join the President in the sentiment that all who are willing to continue should by all means do so. Either way, though, please do let us know.

We look forward to seeing most if not all of you at the March 14 -15 meeting!

All the best,  
John and Eric

---

**From:** Karishma Shah (b) (6)  
**Sent:** Wednesday, February 20, 2013 3:29 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: moonshot thinking in SOTU

Hi Cristin,

Sounds phenomenal :) Good luck with event planning and looking forward to hearing from you!

Best,  
Karishma

On Wed, Feb 20, 2013 at 11:48 AM, Dorgelo, Cristin (b) (6) wrote:

Hi Karishma:

Over the next few weeks, we're working to sort out the timing of our White House Grand Challenges event. I'll reach out to schedule a call with you, Will and other interested Google Xers when I have a little more clarity on that plan. Does that work?

Best,

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Karishma Shah [mailto:(b) (6)]  
**Sent:** Monday, February 18, 2013 9:52 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: moonshot thinking in SOTU

Love it! :)...very powerful section of his address. Thanks for joining us at Solve for X, Cristin! Would you like to hop on a call this week or next to discuss how we can collaborate?

Best,

Karishma

On Wed, Feb 13, 2013 at 9:28 AM, Dorgelo, Cristin (b) (6) wrote:

Google X moonshot team:

I'm sure you caught this in last night's SOTU, but in case it comes in handy as you spread the word about moonshots & making things 10x better, this paragraph from the President's address last night speaks to his commitment to pursuing audacious, game-changing goals (aka Grand Challenges & Moonshots) and to investing in research and development. One of the examples, the [Brain Activity Map](#), is a Grand Challenge we've been developing with NIH/NINDS, neuroscientists, nanotechnologists, and private foundations.

"Now, if we want to make the best products, we also have to invest in the best ideas. Every dollar we invested to map the human genome returned \$140 to our economy -- every dollar. Today, our scientists are mapping the human brain to unlock the answers to Alzheimer's. They're developing drugs to regenerate damaged organs; devising new material to make batteries 10 times more powerful. Now is not the time to gut these job-creating investments in science and innovation. Now is the time to reach a level of research and development not seen since the height of the Space Race. We need to make those investments."

All best,

Cristin

Cristin Dorgelo

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Astro Teller [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 11:44 PM  
**To:** Dorgelo, Cristin  
**Cc:** Will Patrick; Megan Smith (b) (6) (b) (6)  
**Subject:** Re: SfX Class of 2013: Thanks for everything

Thanks for being part of the event, Cristin! It was great to have you there with us!

: )

Astro.

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Will, Megan, Astro, Karishma, Obi:

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Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

**From:** Will Patrick [mailto:(b) (6)]

**Sent:** Monday, February 11, 2013 6:39 PM

**To:** (b) (6) Andras Forgacs; Shawn Douglas; Prashant K. Jain; Peter Diamandis; Steve Jurvetson; (b) (6) Ehsan Afshari; Austen Heinz; Mir Imran; Catteruccia, Dr Flaminia; Anna Patterson; Padmasree Warrior (pwarrior); Chase, Charles; Vinod Khosla; Catherine Mohr; Jeff S. Urra; Geena Davis; O'Sullivan, Meghan; Nicholas Negroponte; Molly Morse; Marc Andreessen; (b) (6) (b) (6) Dorgelo, Cristin; (b) (6) Karishma Shah; Cady Coleman; Natalie Jeremijenko; (b) (6) Wael Ghonim; Bill Gross (b) (6) Black, Keith, L., M.D.; Regina Dugan; Cathy Zoi; Yoky Matsuoka; Hermann Hauser; Rob Nail; Sergey Brin; (b) (6)  
**Cc:** Megan Smith; Obi Felten; Astro Teller; Kathy Cooper; Will Patrick; Rodney Brooks

**Subject:** SfX Class of 2013: Thanks for everything

SfX Class of 2013:

What an amazing three days. Thank you so much for joining us and being a part of our community. I feel very lucky to spend a portion of my day job helping to put this group together. As a young person, I feel awed by your intelligence & passion and inspired to do ever bigger and crazier things. Thank you for that!

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  - [Peter & Eric](#) on asteroid mining
  - [Eric's](#) introduction
  - [Rodney](#) on american manufacturing
  - [Shawn](#) on Targeted Therapeutics
  - [Charles](#) on compact fusion
  - [Danielle](#) on economical energy storage
  - [Andras](#) on sustainable, scalable meat
  - [Keith](#) on Alzheimer's diagnostics
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  - [Bill](#) on solar cheaper than natural gas
  - [Saul](#) on inflatable robotics
  - [Molly](#) on replacing plastic
  - [Ehsan](#) on low-cost terahertz
  - [Jeff](#) on municipal waste to energy
  - [Natalie](#) on xDrones
  - [Steve Jurvetson](#) on the tech-accelerated rich poor gap [will be [here](#)]
3. We've started getting some press coverage ( [TechCrunch](#), [Verge](#), [Mashable](#) ). We'd love your help with creating more buzz buzz buzz. For social media, try using #solveforx. If your company / organization would like to do any press, feel free to utilize the blog post as a starting point. I can also put you in touch with our comms team here at Google[x].
4. Check out Astro's [op-ed](#) in Wired.
5. We're looking for feedback! We'll send out a feedback form in the next couple days.
6. We're already searching for the next batch of moonshots for SfX 2014. What did we miss? Who should we be talking to? What moonshot idea should be represented on our stage?

Finally, the biggest outcomes of SfX 2012 came from the relationships created at the event ... I expect this year to be no different. Everyone who attended is on this email; don't be a stranger! Reach out to your fellow participants and continue the dialogue. Of course, you're more than welcome to reach out to me and anyone else on the Google[x] team (see cc'd list) for any reason.

Talk soon!

Cheers,

Will (on behalf of Astro, Megan and the rest of the SfX crew)



--

- Astro

--

Karishma Shah | Google[x] | (424)-23K-SHAH | (b) (6) .

If you received this communication by mistake, please do not forward it to anyone else as it may contain confidential or privileged information; please erase all copies of it, including all attachments, and let the sender know that it has been sent to the wrong person.

The above terms may reflect a potential business arrangement and are provided solely as a basis for further discussion. They are not intended to be and do not constitute a legally binding obligation. No legally binding obligations will be created, implied, or inferred until an agreement in final form is executed in writing by all parties involved.

--

Karishma Shah | Google[x] | (424)-23K-SHAH | (b) (6) .

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**From:** George Ivanov (b) (6)  
**Sent:** Wednesday, February 20, 2013 1:31 PM  
**To:** Edelman, R. David  
**Subject:** Re: Meeting today

Hi David,

Sincerely,  
George

On Wed, Feb 20, 2013 at 1:27 PM, Edelman, R. David (b) (6) wrote:

George,

I'm afraid I've been called across the street for a meeting on top of our coffee. What's your schedule like tomorrow/Friday? I am going to be in and out of the office but I bet we can nail down a time.

-rD

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy

ph: (202) (b) (6) | bb: (202) (b) (6)

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW

Washington, DC 20005

(b) (6)

(b) (6)

---

**From:** George Ivanov (b) (6)  
**Sent:** Thursday, February 21, 2013 9:52 AM  
**To:** Edelman, R. David  
**Subject:** Re: Meeting today

Sure thing. I can get there at around 3:10.

Sincerely,  
George

On Wed, Feb 20, 2013 at 10:22 PM, Edelman, R. David (b) (6) wrote:

George,

Let's shoot for Friday, 3pm, perhaps at Teaism in Dupont?

Cheers,

-rD

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Wednesday, February 20, 2013 1:31 PM  
**To:** Edelman, R. David  
**Subject:** Re: Meeting today

Hi David,

I am free both tomorrow and on Friday from 3 -5.

Sincerely,

George

George,

-rD

ph: (202) (b) (6) | bb: (202) (b) (6)

(b) (6) (b) (6)

(b) (6) (b) (6)

---

**From:** Abigail Sassoon (b) (6)  
**Sent:** Thursday, February 21, 2013 2:32 PM  
**To:** Greenblatt, Jonathan  
**Cc:** Kalil, Thomas A.; John Kelly (b) (6) FN-WHO-Innovation  
**Subject:** Re: FW: STEM and National Service

Hello Jonathan,

Thank you for the information! I will let Brendan know to expect John as well.

Tom, if you are available from 11am-12pm EST, I am happy to set up a Google+ Hangout. Just let me know -- thanks!

Best,  
Abby

On Thu, Feb 21, 2013 at 11:00 AM, Greenblatt, Jonathan (b) (6) wrote:

Hi there. Thanks for your note. This detail is helpful.

Please note that I will be accompanied by John Kelly, a colleague from the Corporation for National and Community Service who is leading our work on Stem Corps.

Yes, I would like to include Tom Kalil. Eric cannot make it. Copying Tom to facilitate.

Thanks,

Jonathan

**From:** Abigail Sassoon [mailto:(b) (6)]  
**Sent:** Thursday, February 21, 2013 1:49 PM  
**To:** Greenblatt, Jonathan

**Subject:** Re: FW: STEM and National Service

Hello Jonathan,

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**From:** Jacqueline Fuller [mailto:(b) (6)]  
**Sent:** Wednesday, February 20, 2013 5:13 PM  
**To:** Greenblatt, Jonathan; Abigail Sassoon  
**Cc:** Strautmanis, Michael; Covey, Francesca; FN -WHO-Innovation

**Subject:** Re: FW: STEM and National Service

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**From:** Abigail Sassoon (b) (6)  
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**To:** Kalil, Thomas A.  
**Subject:** Re: FW: STEM and National Service

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My # in CA is (b) (6)

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Look forward to connecting.

Best,

Jonathan

**From:** Jacqueline Fuller [mailto:(b) (6)]  
**Sent:** Wednesday, February 20, 2013 4:28 PM  
**To:** Greenblatt, Jonathan  
**Cc:** Strautmanis, Michael; Covey, Francesca  
**Subject:** Re: FW: STEM and National Service

Hi Jonathan,

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**To:** Kalil, Thomas A.  
**Subject:** Re: FW: STEM and National Service

Great -- thank you! Happy Friday!

On Fri, Feb 22, 2013 at 7:51 AM, Kalil, Thomas A. (b) (6) wrote:  
All set - will join Hangout at 11.

---

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**To:** Kalil, Thomas A.  
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If that doesn't work, we can try one more time when the Hangout begins, and then we can call you on your phone. Thank you!

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My # in CA is (b) (6)

Thanks!

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Thanks!

Tom

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**Sent:** Thursday, February 21, 2013 02:32 PM  
**To:** Greenblatt, Jonathan  
**Cc:** Kalil, Thomas A.; John Kelly (b) (6) (b) (6) FN-WHO-Innovation  
**Subject:** Re: FW: STEM and National Service

Hello Jonathan,

Thank you for the information! I will let Brendan know to expect John as well.

Tom, if you are available from 11am-12pm EST, I am happy to set up a Google+ Hangout . Just let me know -- thanks!



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**To:** Greenblatt, Jonathan; Abigail Sassoon  
**Cc:** Strautmanis, Michael; Covey, Francesca; FN-WHO-Innovation

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---

**From:** George Ivanov (b) (6)  
**Sent:** Friday, February 22, 2013 3:22 PM  
**To:** Edelman, R. David  
**Subject:** Re: Venue

Almost there

On Feb 22, 2013 3:19 PM, "Edelman, R. David" (b) (6) wrote:  
Here in line

----- Original Message -----

From: Edelman, R. David  
Sent: Friday, February 22, 2013 03:00 PM  
To: (b) (6) (b) (6)  
Subject: Venue

George -- I find my prior running long and am across town; any chance we might switch venues to Starbucks on Wisconsin @ S? Or is that inconveniently far, in which case we should bump to a bit later?

---

**From:** Vint Cerf (b) (6)  
**Sent:** Friday, February 22, 2013 4:07 PM  
**To:** Holdren, John P.  
**Subject:** two items

Lovely to see you, however briefly, at the NSB reception - it was very kind of you to come. I am sorry you had trouble with the security people - apparently they are not paid to THINK...

1. I had lunch with Marjorie Blumenthal today and we talked of her interest in doing something new. PCAST came up - I am a HUGE fan of Marjorie - mostly worked with her during her time at NRC/CSTB - extremely well-organized AND understands Washington politics in its most general sense.

2. I will follow up with a summary of the National Medals dilemma for your comment.

VERY glad to know you are continuing in service.

vint

---

**From:** Abigail Sassoon (b) (6)  
**Sent:** Saturday, February 23, 2013 2:01 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: FW: STEM and National Service

Hello Tom,

You are very welcome -- I'm glad the Hangout worked! Chris' email is (b) (6) Please let me know if I can provide any additional information. Thank you!

Best,  
Abby

On Sat, Feb 23, 2013 at 9:31 AM, Kalil, Thomas A. (b) (6) wrote:

Thanks for your help!

Can you send me the name and the e-mail of the gentleman who was on the hangout from the West Coast?

Thanks!

Tom

**From:** Abigail Sassoon [mailto:(b) (6)]  
**Sent:** Friday, February 22, 2013 10:54 AM

**To:** Kalil, Thomas A.  
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Abigail Sassoon | Assistant to Eric Chu, Jacqueline Fuller, and Anita Yuen (b) (6) | 650

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**From:** Chris Busselle (b) (6)  
**Sent:** Sunday, February 24, 2013 1:57 PM  
**To:** Kalil, Thomas A.  
**Subject:** Re: ARPA-ED

Thanks much Tom, good to meet you as well.

I'll take a look and let you know my thoughts next week. Thanks for sending the backgrounders.

Chris

On Sat, Feb 23, 2013 at 6:14 PM, Kalil, Thomas A. (b) (6) wrote:

Dear Chris:

Here's a slide deck on a DARPA project that created a "digital tutor" for IT systems administration. It is allowing new Navy recruits to outperform Navy experts with 7+ years of experience on real -world trouble tickets.

[http://www.adlnet.gov/wp-content/uploads/2012/08/Fletcher\\_DF\\_DT\\_Brief\\_iFest2012.pdf](http://www.adlnet.gov/wp-content/uploads/2012/08/Fletcher_DF_DT_Brief_iFest2012.pdf)

DARPA has also been funding the Center for Game Science.

See <http://www.centerforgamescience.org/site/games> and the attached.

Best,

Tom

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**From:** Charlie Hale (b) (6)  
**Sent:** Monday, February 25, 2013 11:11 AM  
**To:** Edelman, R. David  
**Subject:** meeting in DC

Hi David,

I just wanted to follow-up on our conversation a few weeks ago to see if you're still interested in meeting in DC? Some of the project leads will be coming out around April 10th so I wanted to see if your group might be free to meet then.

Hope you're doing well,  
-Charlie

--

Charlie Hale | Google Public Policy (b) (6)



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**From:** Zinnia Orosa (b) (6)  
**Sent:** Monday, February 25, 2013 12:32 PM  
**To:** Mielke, Dawn M.  
**Cc:** Graubard, Vivian  
**Subject:** Re: Follow-up/ Visiting DC

Great; I've booked on Matthew's cal. I will confirm as we get closer to the date.

Thanks Dawn!  
Zinnia

Zinnia Orosa	Executive Assistant to Matthew Stepka, VP <a href="http://google.org">google.org</a>	(b) (6)	1-
(b) (6)			

On Mon, Feb 25, 2013 at 9:14 AM, Mielke, Dawn M. (b) (6) wrote:

March 21 @ 3:00 pm will work.

**From:** Zinnia Orosa [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 12:00 PM  
**To:** Mielke, Dawn M.  
**Cc:** Graubard, Vivian

**Subject:** Re: Follow-up/ Visiting DC

Hi Dawn,

We held 4 pm ET on Friday 3/1 on calendar for Todd to chat with Matthew, however, that it will no longer work as Matthew will be traveling. We'd like to postpone the call please.

Will Todd be available on any of these dates (30 min. phone call ):

Mar 20, 12-2 pm ET

Mar 21, 3-5 pm ET

Mar 22, bet. 12-5 pm ET

Thank you and regards,

Zinnia

Zinnia Orosa | Executive Assistant to Matthew Stepka, VP [google.org](http://google.org) | (b) (6) | 1-  
(b) (6)

On Thu, Feb 21, 2013 at 4:44 PM, Graubard, Vivian (b) (6) wrote:

Of course! I will be traveling next week, so Dawn Mielke will be assisting with Todd's calendar. I put the hold on there for 4pm, but when you confirm please email her at:

(b) (6)

If, for some reason, she is unresponsive, please email Todd. He'll see the hold on his calendar and be able to give you a call in number to reach him at.

Thanks!

Vivian

**From:** Zinnia Orosa [mailto:(b) (6)]  
**Sent:** Thursday, February 21, 2013 7:42 PM  
**To:** Graubard, Vivian  
**Cc:** Matthew Stepka

**Subject:** Re: Follow-up/ Visiting DC

Hi Vivian,

No problem. Can we please hold on cal for now: Fri. 3/1 @ 4 pm ET? We will confirm with you by Mon.

Thank you,

Zinnia

Zinnia Orosa	Executive Assistant to Matthew Stepka, VP <a href="http://google.org">google.org</a>	(b) (6)	1-
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On Thu, Feb 21, 2013 at 1:57 PM, Graubard, Vivian (b) (6) wrote:

Matt,

I'm sorry we couldn't make this work today! Todd had back to back meetings all day. Would you be available for a call next Friday at 4pm Et?

Thanks,

Vivian

**From:** Matthew Stepka [mailto:(b) (6)]

**Sent:** Wednesday, February 20, 2013 11:42 PM

**To:** Park, Todd

**Cc:** Graubard, Vivian; Zinnia Orosa

**Subject:** Re: Follow-up/ Visiting DC

Todd,

Thanks for getting back to me. I'm in town tomorrow and free from 4-5pm if that happens to work for you. Otherwise, let's definitely find a time to catch up over the phone soon.

Cheers,

Matthew.

On Wed, Feb 20, 2013 at 8:27 PM, Park, Todd (b) (6) wrote:

Hi Matt, I am so sorry to have missed you! Many apologies, things have been absolutely crazy ☺ Are you still in DC? If not, might we set up a call to chat?

Cheers,

Todd

**From:** Matthew Stepka [mailto:(b) (6)]  
**Sent:** Tuesday, February 12, 2013 9:59 PM  
**To:** Park, Todd  
**Subject:** Follow-up/ Visiting DC

Todd,

Hope you are well. It was great to briefly chat before the holidays about how Google/ Google.org could work more strategically with your office. As we discussed, let's put some time on calendar to brainstorm with our teams about how to best work together. Also, we can share the latest with regard to our Civic Innovation initiative.

In the meantime, I am having lunch with Jonathan Greenblatt next Wednesday. If you have a free moment in the afternoon it would be great to meet in person.

Cheers,

Matthew

--

**Matthew Stepka** | Vice President, Disruptive Technology for Social Impact | **Google**  
1600 Amphitheatre Parkway | Mountain View, California 94043 | (b) (6)

This email may be confidential or privileged. If you received this communication by mistake, please do not forward it to anyone else, erase all copies and attachments, and let me know that it went to the wrong person. Please consider the environment before printing this e-mail.

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(b) (6)

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Zinnia Orosa	Executive Assistant to Matthew Stepka, VP <a href="http://google.org">google.org</a>	(b) (6)	1-
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(b) (6)
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On Mon, Feb 25, 2013 at 10:55 AM, Mielke, Dawn M. (b) (6) wrote:

What number should he call?

**From:** Zinnia Orosa [mailto:(b) (6)]  
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**To:** Mielke, Dawn M.  
**Cc:** Graubard, Vivian  
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**Sent:** Wednesday, February 20, 2013 11:42 PM

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**Cc:** Graubard, Vivian; Zinnia Orosa

**Subject:** Re: Follow-up/ Visiting DC

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Matthew

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**Matthew Stepka** | Vice President, Disruptive Technology for Social Impact | **Google**  
1600 Amphitheatre Parkway | Mountain View, California 94043 | (b) (6)

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**From:** Edelman, R. David  
**Sent:** Tuesday, July 30, 2013 12:33 PM  
**To:** Johanna Shelton  
**Subject:** RE: MSFT files search takedown against itself

This is precisely the kind of obvious automation of takedown requests that has raised some concern. I would be interested in anyone's ideas to help make the system more accountable and accurate.

-rD

**From:** Johanna Shelton [mailto: (b) (6)]  
**Sent:** Tuesday, July 30, 2013 11:11 AM  
**To:** Edelman, R. David  
**Subject:** MSFT files search takedown against itself

for the IPEC's rightsholder best practices - maybe some more quality control of their vendors?

<http://www.pcworld.com/article/2045486/microsoft-accuses-microsoft-of-copyright-infringement-asks-google-to-scrub-search-links.html>

Microsoft accuses Microsoft of copyright infringement, asks Google to scrub search links



Brad Chacos@BradChacos

- Jul 29, 2013 9:09 AM
- print


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Chalk this up in the "funny, but not really" category: Last week, a company working with Microsoft to combat copyright pirates asked Google to remove multiple Microsoft web pages from Google searches — for infringing Microsoft copyrights.

Yep, Microsoft filed a Digital Millenium Copyright Act takedown request against itself, as Torrentfreak first spotted.





This wasn't a case of internal idiocy or revenge, and it's also not quite as amusing as it may appear at first glance. Instead, it highlights the harmful way copyright holders use automatically generated DMCA takedown requests to try to scrub the net of pirated content, casting a wide net that often ensnares innocent webmasters with false infringement claims.

## Request ID: 686672

Chilling Effects		<b>Breakdown of Reported URLs</b>	
Reporting Organization	LeakID	Removed	0 0%
Copyright Owner	Microsoft Corporation	No action taken	6 100%
Request Date	Jul 22, 2013	Pending	0 0%
Reporter's Country	France		
Unique Domains	2		
URLs Requested to be Removed	6		

### Requested URLs By Domain

Caution! These sites may contain inappropriate, offensive, or malicious content

Specified Domain	URLs Requested to be Removed 	No action taken 
microsoft.com	5	5 
microsoftstore.com	1	1 

Google's record of

LeakID's DMCA takedown request against Microsoft.com.(Click to enlarge.)

If a copyright holder feels that a particular website is ripping off its work, it can send Google a DMCA takedown request and ask for the infringing site to be removed from the search engine. If Google determines that the site does indeed stomp on the copyright holder's intellectual property rights, the site's links disappear from Google Searches. So far, so good, right?

**Contact Information**  
Name: [redacted]  
Company Name: LEAKID  
Copyright holder: microsoft  
Country/Region: FR

**YOUR COPYRIGHTED WORK**

Copyright claim #0:  
Office 2013, 2010, 2011, 2007, 2003  
Original work URL(s):  
1. [http://www.microsoftstore.com/store/microsoft-fr\\_FR\\_cat?ThemeID=30903100&categoryID=61511&id=1&DmRm&cid=5369&pcid=21582580102&pkw=office%202013&pmt=p&WT.srch=1&1](http://www.microsoftstore.com/store/microsoft-fr_FR_cat?ThemeID=30903100&categoryID=61511&id=1&DmRm&cid=5369&pcid=21582580102&pkw=office%202013&pmt=p&WT.srch=1&1)  
2. <http://support.microsoft.com/kb/2460049-fr>  
3. <http://www.microsoft.com/france/microsoft-au-quotidien/office/telecharger-microsoft-office-2>  
4. <http://office.microsoft.com/fr-fr/onenote-help/presentation-de-microsoft-office-2003-HA00107>  
5. <http://www.microsoft.com/france/mac/products/office>  
6. <http://support.microsoft.com/fr-fr/solutions/more/Family=Office>

**Allegedly infringing URLs**  
0. [http://www.microsoftstore.com/store/microsoft-fr\\_FR\\_cat?ThemeID=30903100&categoryID=61511&id=1&DmRm&cid=5369&pcid=21582580102&pkw=office%202013&pmt=p&WT.srch=1&1](http://www.microsoftstore.com/store/microsoft-fr_FR_cat?ThemeID=30903100&categoryID=61511&id=1&DmRm&cid=5369&pcid=21582580102&pkw=office%202013&pmt=p&WT.srch=1&1)  
1. <http://support.microsoft.com/kb/2460049-fr>  
2. <http://www.microsoft.com/france/microsoft-au-quotidien/office/telecharger-microsoft-office-2>  
3. <http://office.microsoft.com/fr-fr/onenote-help/presentation-de-microsoft-office-2003-HA00107>  
4. <http://www.microsoft.com/france/mac/products/office>  
5. <http://support.microsoft.com/fr-fr/solutions/more/Family=Office>

TORRENTFREAKA detailed look at the Microsoft DMCA takedown

request. (Click to enlarge.)

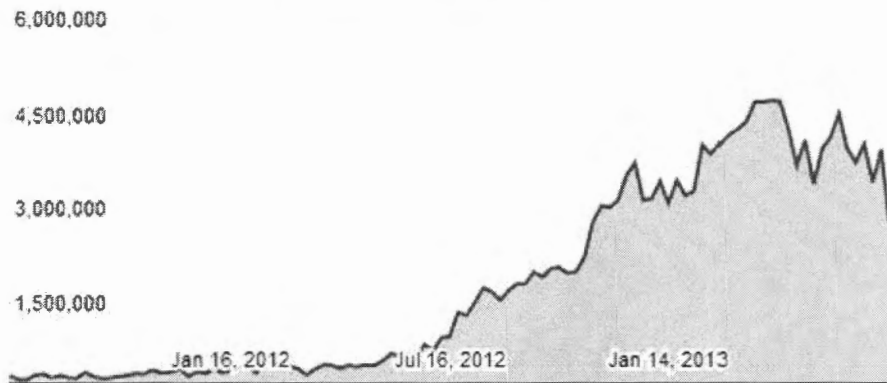
Copyright holders and the companies they hire to manage DMCA takedown requests—in Microsoft's case, a third party called LeakID—frequently automate the process, resulting in a flood of requests that are sometimes erroneous and aren't always checked for accuracy before filing.

These false requests are far from rare. Consider past Microsoft DMCA takedown requests that accidentally targeted the U.S. Environmental Protection Agency, the Department of Health and Human Services, the National Institutes of Health, TechCrunch, Wikipedia, BBC News, Bing.com, Google.com, and many others. Or HBO's attempt to remove links to the open-source VLC media player, or this big list

of "DMCA notices so stupid it hurts," or Google's examples of the "inaccurate" DMCA takedown requests it has received over the years, or...

## Ramping up

URLs requested to be removed from Search per week



The number of

weekly DMCA takedown requests received by Google.

Over the past year, copyright holders such as Microsoft, the Recording Industry Association of America, NBC, Walt Disney, and others have started blasting Google with vast numbers of takedown requests. While Google used to receive around 225,000 DMCA requests per week, according to the company's own Transparency Report, copyright holders now hit the search engine with 3.5 to 4.5 million takedown requests each and every week.

Around the time of the ramp-up—August 2012—Google announced it would start penalizing sites that are repeatedly accused of copyright infringement, ranking them lower in search results.

Between January and July 2013, Google erased more than 100,000,000—that's 100million—links from the web as a result of DMCA takedown requests. Torrentfreak reports that figure as already being more than twice the total number of links Google erased in all of 2012.

### Copyright removal requests received for Search in the past month

**13,829,857** URLs Requested to be Removed

**35,775** Specified Domains

**3,214** Copyright Owners

**1,924** Reporting Organizations

Google's DMCA stats for the past month.

For its part, Google does appear to actively police the DMCA takedown requests it receives. Around three percent of DMCA takedown requests the company receives are rejected, and rejected URLs are listed on the Transparency Report's main copyright page. And yes, the folks in the Googleplex caught LeakID's attempts to scrub the Microsoft.com links before the six Office solutions pages disappeared from search results.

But few companies have Google's resources. The Safe Harbor provision of the DMCA rewards websites that "take down first and ask questions later," and for every amusing story like this one, there are dozens of other, more harmful false takedown requests. Also consider that if even just 1 percent of the 100 million-plus requests for URL removals catches an innocent page in the automated crossfire, that's already 1 million websites affected.

The Electronic Frontier Foundation filed a court brief in 2012 arguing that automated DMCA requests that *aren't* reviewed by actual humans should be considered negligent, therefore opening the requestor to sanctions. Nothing ever came from the attempt, however —and automated, unreviewed requests generated by Microsoft contractors are still trying to erase parts of the Microsoft.com website to this very day.

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice

(b) (6)

---

**From:** George Ivanov (b) (6)  
**Sent:** Monday, February 25, 2013 6:03 PM  
**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

Thursday after 3pm would work well.

On Mon, Feb 25, 2013 at 5:58 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks! Absolutely. How are your Thursday and Friday afternoons looking?

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 5:43 PM  
**To:** Sinai, Nick  
**Cc:** (b) (6) Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

Hello Nick and Mike,

We just issued a [blog post](#) regarding Friday's memorandum. This is a great step forward and we would be interested in learning about any related federal initiatives that might be in the works. Mike, would you have time for a quick call later this week?

Sincerely,

George

On Wed, Nov 21, 2012 at 4:11 PM, Sinai, Nick (b) (6) wrote:

Mike Stebbins is point at OSTP for open access to research publications

George Ivanov and Johanna Shelton are at Google, in the DC office

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6)

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---

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--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

---

**From:** Stebbins, Michael J.  
**Sent:** Thursday, August 01, 2013 4:03 PM  
**To:** 'Anurag Acharya'  
**Subject:** RE: repository for federally funded research articles

Hi Anurag,  
I was just thinking about you. I hope all is well. I would love to catch up some time and fill you in. How is next week looking for you?  
Kind Regards,  
Mike

**From:** Anurag Acharya [mailto: (b) (6)]  
**Sent:** Thursday, August 01, 2013 3:58 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: now that we are getting close to the timeline for responses to the OA memo, I was wondering how things were going with the agency plans. Of the folks at the meeting, I had follow up discussions with NIH and some initial discussions with NSF couple of months ago. None of the others reached out/expressed interest. I am curious how things had evolved...

cheers,  
anurag

On Thu, May 2, 2013 at 8:34 AM, Stebbins, Michael J. (b) (6) wrote:  
Thanks!

---

**From:** Anurag Acharya [mailto: (b) (6)]  
**Sent:** Thursday, May 02, 2013 11:22 AM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: My presentation is attached.

see you soon.  
anurag

On Thu, May 2, 2013 at 6:47 AM, Stebbins, Michael J. (b) (6) wrote:  
Any chance you can send your presentation now? I would like to distribute them in an hour or so.  
Best,

Mike

---

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Thursday, May 02, 2013 01:27 AM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: I will send you the slides tomorrow morning. My flight in was delayed and there is a bit of work that I still need to do on the talk/

BTW, David Lipman mentioned he would like to attend my presentation.

cheers,  
anurag

On Wed, May 1, 2013 at 7:22 AM, Stebbins, Michael J. (b) (6) wrote:

Hi Anurag,

The USDA has two buildings on Independence avenue. We will be in the south building, 1400 Independence Ave SW and 12th Street SW right near to the Smithsonian Metro Stop (Independence Ave Exit). The Room Number is 3109 (on the 3rd Floor). Will you be able to share your slides later today so I can distribute them to those people who will be joining us by phone?

Kind Regards,

Mike

---

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Tuesday, April 30, 2013 8:41 PM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: I do need to know where the meeting would be held :) Would be hard to attend/present otherwise...

I tried searching for the meeting online, no luck. Would appreciate a quick note. Thanks.

anurag

On Sat, Apr 27, 2013 at 1:35 PM, Anurag Acharya (b) (6) wrote:

Hi Mike: could you send me the address for this week's meeting? You had mentioned USDA. Would that mean the National Agricultural Library or some place else with in the Beltsville campus?

anurag

On Wed, Apr 24, 2013 at 11:41 AM, Stebbins, Michael J. (b) (6) wrote:

Great. Talk to you soon.

---

**From:** Anurag Acharya [mailto:(b) (6)]

**Sent:** Wednesday, April 24, 2013 02:38 PM

**To:** Stebbins, Michael J.

**Subject:** Re: repository for federally funded research articles

In 5 mins? I will be a (b) (6) (conf room direct number). If that doesn't work, my cell number is (b) (6)

anurag

On Wed, Apr 24, 2013 at 11:26 AM, Stebbins, Michael J. (b) (6) wrote:

Hey there,

Just tried to call. Let me know when you are free.

Regards,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Wednesday, April 24, 2013 11:50 AM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: today, 10:30am-12:30pm and 3-5pm would work; tomorrow, 9-10, noon-5pm. all times pacific.

anurag

On Wed, Apr 24, 2013 at 6:45 AM, Stebbins, Michael J. (b) (6) wrote:

Thanks. Do you have time for a quick chat later today or tomorrow?

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Monday, April 15, 2013 5:49 PM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: checking in to see if you had had a chance to discuss possible dates for a presentation with the group? I have some possible family travel coming up in mid -late May, nailing this down would help us scheduling - wise. Thanks.

anurag

On Tue, Apr 9, 2013 at 12:41 PM, Anurag Acharya (b) (6) wrote:

On Thu, Apr 4, 2013 at 9:30 AM, Anurag Acharya (b) (6) wrote:

On Thu, Apr 4, 2013 at 9:13 AM, Stebbins, Michael J. (b) (6) wrote:

Fantastic. I will discuss the dates with the group today and see what openings exist. We are juggling a number of presentations.

Hi Mike: any idea which dates would work? I will be in Toronto on 22 -23 speaking at the annual conference of library consortia, so coming over to DC would be easier that week than others.

cheers,

anurag

How is next week looking for you?

Mornings 9am-1pm Pacific would work all days. Later in the day, 2pm -3pm Pacific would work on Monday, Tuesday, and 3-5pm Pacific on Wednesday, Thursday, Friday.

cheers,

anurag

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Thursday, April 04, 2013 3:42 AM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: it was really good to sync up today. I would like to take you up on the offer to speak to the interagency group - to present the argument for a centralized repository and to describe our proposal in detail.

You had mentioned that the group meets on thursdays. Would April 25th Thursday work? If not, the following thursday (May 2nd)? I was initially trying to make April 18th work but we just moved from LA to Palo Alto - which makes for a long TODO list, as always....

Would be good to chat again sometime this week or next and discuss what would be good to cover in the presentation.

cheers,

anurag

On Tue, Apr 2, 2013 at 3:39 PM, Anurag Acharya (b) (6) wrote:

Sounds good. I will be a (b) (6)

anurag

On Tue, Apr 2, 2013 at 3:21 PM, Stebbins, Michael J. (b) (6) wrote:

How about tomorrow at 530pm Eastern?

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Tuesday, April 02, 2013 2:17 PM

**To:** Stebbins, Michael J.

**Subject:** Re: repository for federally funded research articles

Hi Mike: looks like we missed each other. Should we reschedule? Any time after 10am Pacific/1pm Eastern would work for me this week. Next week, 10am -2pm Pacific would work Mon->Thurs and 10-1pm Friday.

cheers,

anurag

On Fri, Mar 29, 2013 at 12:51 PM, Anurag Acharya (b) (6) wrote:

Hi Mike: thanks for the quick response! Sorry to interrupt you on your vacation :(

Tuesday 1pm Eastern/10am Pacific would work for me. If you would prefer to call, I will be a (b) (6)  
If it would be easier for me to call, let me know the number to call.

anurag

On Fri, Mar 29, 2013 at 12:18 PM, Stebbins, Michael J. (b) (6) wrote:

Sorry. I am on vacation. How about Tuesday? I am open from 1 -3.

---

**From:** Anurag Acharya [mailto:(b) (6)]

**Sent:** Friday, March 29, 2013 02:46 PM

**To:** Stebbins, Michael J.

**Subject:** Re: repository for federally funded research articles

Hi Mike: just checking in to see if we are on for talking some time next week.

cheers,



anurag

On Tue, Mar 26, 2013 at 12:46 PM, Anurag Acharya (b) (6) wrote:

Sure. Mon/Tues/Thurs/Fri morning Pacific would work for me next week. If none of these work for you, let me know some times that would.

cheers,

anurag

On Fri, Mar 22, 2013 at 3:38 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks Anurag,

Do you have time to talk again on the week of April 1<sup>st</sup>?

Best,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 15, 2013 9:47 PM  
**To:** Stebbins, Michael J.  
**Subject:** repository for federally funded research articles

Hi Mike: congratulations on the new OSTP policy on increasing public access to research articles funded by federal agencies!

One of the key issues for the success of the policy will be whether these articles are included in a publicly available repository. In addition to ensuring a consistent access mechanism for all users, inclusion in a repository would also help ensure archival access and long-term stewardship.

As the lead for Google Scholar, I have worked with publishers and libraries worldwide. I have also worked with most federal agencies and depts for indexing their existing collections of research articles. Based on my experience, I would like to share recommendations/proposals regarding repositories for federally funded research articles.

I am hoping this is of interest. I would be happy to visit or join a conversation.

cheers,

anurag

---

**From:** Stebbins, Michael J.  
**Sent:** Tuesday, August 13, 2013 9:19 AM  
**To:** Vint Cerf  
**Subject:** Scientific Data

Dear Vint,

Great to see your article on making data available. I'd love to sit down with you and discuss some of our thinking on it. Is there a good time for us to meet up?

Regards,

Mike

Michael Stebbins, Ph.D.  
Assistant Director, Biotechnology  
White House Office of Science and Technology Policy  
Ph (b) (6)  
<http://www.ostp.gov>

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**From:** Holdren, John P.  
**Sent:** Thursday, August 08, 2013 10:57 AM  
**To:** Vint Cerf  
**Subject:** RE: Georg Schuette (Ministry of Research and Education)

Vint -- Thanks for this. Sorry for slow reply. I will be in the meeting with the President this afternoon. See you there. Best, John

JOHN P. HOLDREN, PhD  
Assistant to the President for Science and Technology  
and Director, Office of Science and Technology Policy  
Executive Office of the President of the United States  
ema (b) (6)  
direct phon (b) (6)  
assistant Karrie Pitze (b) (6) (b) (6)

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Tuesday, August 06, 2013 8:56 AM  
**To:** Holdren, John P.  
**Subject:** Georg Schuette (Ministry of Research and Education)

John,

I met with Georg while in Berlin last week. He's a most animated, thoughtful and articulate spokesman for science and education. He mentioned he might see you while in DC October 25 -26 this year. I just wanted to reinforce that I found him very much worth talking to.

here's a bit about his work on the health side:

<http://www.research-europe.com/index.php/2013/04/dr-georg-schutte-state-secretary-german-federal-ministry-of-education-and-research/>

I am flying in from London Thursday morning to meet with the President in the afternoon at the WH - is this a meeting at which you may be in attendance? I believe the topic is privacy.

vint

---

**From:** Stebbins, Michael J.  
**Sent:** Wednesday, August 14, 2013 10:56 AM  
**To:** 'Vint Cerf'; Carla LaFever; Denise Kelly  
**Subject:** RE: Scientific Data

Fantastic! I sincerely hope we can get together.

Best,  
Mike

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Tuesday, August 13, 2013 6:31 PM  
**To:** Stebbins, Michael J.; Carla LaFever; Denise Kelly  
**Subject:** Re: Scientific Data

Hi Michael!!

I would love to do this - based in London until mid-December.  
Carla, Denise, any chance to see Michael while I am in DC this week and next?

vint

On Tue, Aug 13, 2013 at 9:18 AM, Stebbins, Michael J. (b) (6) wrote:

Dear Vint,

Great to see your article on making data available. I'd love to sit down with you and discuss some of our thinking on it. IS there a good time for us to meet up?

Regards,

Mike

Michael Stebbins, Ph.D.

Assistant Director, Biotechnology

White House Office of Science and Technology Policy

Ph (b) (6)

<http://www.ostp.gov>

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**From:** Dorgelo, Cristin  
**Sent:** Thursday, August 15, 2013 7:41 PM  
**To:** (b) (6) (b) (6)  
**Subject:** Invite to join White House Google+ Hangout -- "We the Geeks"

Hi Sergey:

Hope your year is going well since we last connected at the Google Solve for X convening. I'm reaching out to you today with an invitation from the White House team that we hope will be of interest!

Earlier this year, we started a new **Google+ Hangout series on WhiteHouse.gov** called "**We the Geeks**" to highlight the future of science, technology, and innovation here in the United States. The topics we've done so far range from asteroid hunting, where we had Bill Nye the Science Guy moderate, to an episode about real-life superpowers from super materials that we timed around Comic Con. Just this past Friday during YouTube's GeekWeek, we hosted an episode about robots and artificial intelligence. We make the discussion interactive by soliciting questions from the public on Twitter using the hash tag #WeTheGeeks. You can view all past *We the Geeks* at [www.whitehouse.gov/we-the-geeks](http://www.whitehouse.gov/we-the-geeks).

Next Friday, August 23<sup>rd</sup>, *We the Geeks* will be highlighting **immigrant innovators in the science, technology, and innovation community** who have made amazing discoveries, developed cutting edge inventions, or conducted remarkable research. These speakers will not only share their experiences as immigrant innovators, but discuss why paving the way for future foreign-born geeks is essential to the future of the S&T enterprise as it pertains to job growth and the future of global competitiveness.

We would like to invite you to participate via webcam. Logistically, we'll need you for no more than **50 minutes on Friday, August 23<sup>rd</sup>**, ideally in the early afternoon Eastern Time. Do you have interest and any calendar availability that day? If so, please point us to a logistical point of contact on your staff.

Really appreciate your consideration of this invite!

All best,  
Cristin

Cristin Dorgelo  
Assistant Director for Grand Challenges  
Office of Science and Technology Policy  
Executive Office of the President

(b) (6)

(b) (6)

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**From:** Stebbins, Michael J.  
**Sent:** Friday, August 16, 2013 1:58 PM  
**To:** 'Denise Kelly'  
**Cc:** Vint Cerf; Carla LaFever; Coleman, Donna I.  
**Subject:** RE: Scientific Data

Fantastic. How about 10-11? I am in the Eisenhower Executive Office Building room 495.

Donna,  
Can you please send Denise the WAVES template so we can get Vint into the building on Monday at 10am?

Best,  
Mike

**From:** Denise Kelly [mailto:(b) (6)]  
**Sent:** Friday, August 16, 2013 1:34 PM  
**To:** Stebbins, Michael J.  
**Cc:** Vint Cerf; Carla LaFever  
**Subject:** Re: Scientific Data

Hello Mike,

Vint could meet on Monday, 8/19 before 11:00am. He could come to your office. Please let me know the best time.

Best,  
Denise

On Fri, Aug 16, 2013 at 1:23 PM, Stebbins, Michael J. (b) (6) wrote:

Hi Carla and Denise,

Does Vint have time on his schedule to chat while he is in D C?

Regards,

Mike

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Tuesday, August 13, 2013 6:31 PM  
**To:** Stebbins, Michael J.; Carla LaFever; Denise Kelly  
**Subject:** Re: Scientific Data

Hi Michael!!

I would love to do this - based in London until mid-December.

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vint

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Mike

Michael Stebbins, Ph.D.

Assistant Director, Biotechnology

White House Office of Science and Technology Policy

Ph (b) (6)

<http://www.ostp.gov>





---

**From:** Stebbins, Michael J.  
**Sent:** Friday, August 16, 2013 1:23 PM  
**To:** 'Vint Cerf'; Carla LaFever; Denise Kelly  
**Subject:** RE: Scientific Data

Hi Carla and Denise,  
Does Vint have time on his schedule to chat while he is in DC?  
Regards,  
Mike

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Tuesday, August 13, 2013 6:31 PM  
**To:** Stebbins, Michael J.; Carla LaFever; Denise Kelly  
**Subject:** Re: Scientific Data

Hi Michael!!

I would love to do this - based in London until mid-December.  
Carla, Denise, any chance to see Michael while I am in DC this week and next?

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On Tue, Aug 13, 2013 at 9:18 AM, Stebbins, Michael J. (b) (6) wrote:

Dear Vint,

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Regards,

Mike

Michael Stebbins, Ph.D.

Assistant Director, Biotechnology

White House Office of Science and Technology Policy

Ph (b) (6)

<http://www.ostp.gov>

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**From:** Stebbins, Michael J.  
**Sent:** Friday, August 16, 2013 4:59 PM  
**To:** 'Denise Kelly'; Coleman, Donna I.; Coleman, Donna I.  
**Cc:** Vint Cerf; Carla LaFever  
**Subject:** RE: security information needed asap for eeob access RE: Scientific Data

Thanks Denise.

**From:** Denise Kelly [mailto:(b) (6)]  
**Sent:** Friday, August 16, 2013 4:38 PM  
**To:** Coleman, Donna I.; Coleman, Donna I.  
**Cc:** Stebbins, Michael J.; Vint Cerf; Carla LaFever  
**Subject:** Re: security information needed asap for eeob access RE: Scientific Data

Thanks Donna. See attached. Please confirm receipt.

Denise

On Fri, Aug 16, 2013 at 4:12 PM, Coleman, Donna I. (b) (6) wrote:

Please complete attached spreadsheet and return via email to (b) (6) before 5 pm today, thanks.

Donna

(b) (6)

(b) (6)

---

**From:** Stebbins, Michael J.  
**Sent:** Friday, August 16, 2013 1:58 PM  
**To:** 'Denise Kelly'  
**Cc:** Vint Cerf; Carla LaFever; Coleman, Donna I.  
**Subject:** RE: Scientific Data

Fantastic. How about 10-11? I am in the Eisenhower Executive Office Building room 495.

Donna,

Can you please send Denise the WAVES template so we can get Vint into the building on Monday at 10am?

Best,

Mike

**From:** Denise Kelly [mailto:(b) (6)]  
**Sent:** Friday, August 16, 2013 1:34 PM  
**To:** Stebbins, Michael J.  
**Cc:** Vint Cerf; Carla LaFever  
**Subject:** Re: Scientific Data

Hello Mike,

Vint could meet on Monday, 8/19 before 11:00am. He could come to your office. Please let me know the best time.

Best,

Denise

On Fri, Aug 16, 2013 at 1:23 PM, Stebbins, Michael J. (b) (6) wrote:

Hi Carla and Denise,

Does Vint have time on his schedule to chat while he is in DC?

Regards,

Mike

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Denise Kelly | Internet Evangelism Assistant (b) (6) | (20 (b) (6)

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Denise Kelly | Internet Evangelism Assistant (b) (6) | (20 (b) (6)

---

**From:** Holdren, John P.  
**Sent:** Monday, August 19, 2013 9:00 AM  
**To:** Vint Cerf  
**Subject:** RE: An excellent op-ed on CFAA

Thanks, Vint. Needless to say, I'm just delighted to have Nicole on board. Best, John

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Saturday, August 17, 2013 7:44 AM  
**To:** Holdren, John P.  
**Subject:** An excellent op-ed on CFAA

John,

this might be of interest to AG Eric Holder given his recent recommendation on mandatory sentencing practices.

<http://www.scientificamerican.com/article.cfm?id=its-times-reform-computer-fraud-abuse-act>

the author is former chief scientist of DARPA Information Systems Office.

Great to see you last week at WH. Had dinner with Nicole Wong last night -what a great addition to OSTP!

vint

---

**From:** Holdren, John P.  
**Sent:** Wednesday, August 21, 2013 7:30 AM  
**To:** Vint Cerf; Wong, Nicole; Daniel, J. Michael; Park, Todd; Kalil, Thomas A.  
**Cc:** Falcone, Patricia; Edelman, R. David  
**Subject:** RE: Why "NSA Fearmongers" Are More Damaging to Free Speech than Is NSA

Thanks, Vint. Adding Patricia Falcone and David Edelman here. Best, John

**From:** Vint Cerf [mailto: (b) (6)]  
**Sent:** Wednesday, August 21, 2013 5:51 AM  
**To:** Wong, Nicole; Daniel, J. Michael; Park, Todd; Holdren, John P.; Kalil, Thomas A.  
**Subject:** Fwd: Why "NSA Fearmongers" Are More Damaging to Free Speech than Is NSA

I think this is pretty sensible.

v

----- Forwarded message -----

**From:** Lauren Weinstein (b) (6)  
**Date:** Tue, Aug 20, 2013 at 1:31 PM  
**Subject:** Why "NSA Fearmongers" Are More Damaging to Free Speech than Is NSA  
**To:** (b) (6)

Why "NSA Fearmongers" Are More Damaging to Free Speech than Is NSA

<http://lauren.vortex.com/archive/001069.html>

If you've been reading my missives for any period of time, you've probably discerned by personal viewpoint that for virtually any controversial topic, the reality exists somewhere in the center area, and not against the pegs at either end of the meter scale.

Unfortunately, our culture these days -- especially in the political arena -- has become all about extremes.

Either you're with us, or you're the enemy! Compromise is caving! My way or the highway!

Complicating matters even more, we tend to congregate increasingly with persons who already share our established points of view (either in person or online), and gravitate toward opinionated news sources that will further reinforce our existing positions.

This is the essence of "echo chamber" effects we've frequently discussed. Another analogy is a loud public address system "feedback" squeal, as noise feeds on itself through continuing cycles of uncontrolled amplification.

The current controversies over NSA programs are perhaps quintessential examples of how this all works in practice.

There are many players, and many motives.

We can definitely stipulate that oversight of NSA programs and essential associated transparency with the public has become weak and sloppy -- and is now creating collateral damage that is intolerable.

We can also probably agree that some associated NSA programs -- though likely still legal in a formal sense -- have drifted beyond an acceptable scope -- especially of concern given the oversight and transparency problems.

Reported "leakage" of foreign intelligence data to domestic agencies such as the Drug Enforcement Agency (and use by these agencies of "parallel reconstruction" techniques to obscure the original triggers for investigations) are especially worrisome, since they violate the basic premises of compartmentalization through which we draw the line between foreign and domestic intelligence operations and resulting data.

Still, there is little fundamentally new in the "revelations" we've seen that was not obvious or anticipated by followers of Congressional legislation passed in a rush after 9/11, such as PATRIOT and the Homeland Security Act. Many of us warned at the time what sorts of programs were being authorized, but we were ignored and chastised.

But for all the information we've seen about NSA to date, there is zero evidence of actual evil intent to be found -- in stark distinction to the manner in which various foreign intelligence agencies operate vast, oppressive, specifically domestic censorship and surveillance regimes -- with China and Russia being two obvious examples.

Unfortunately, many breathless observers of the NSA situation have little knowledge of (or perhaps little real interest in) how other countries operate. But in a tightly interconnected world, we cannot view NSA or other U.S. agencies in isolation -- not safely or realistically anyway.

This is true even if we ignore for now some of the "peg-huggers" at the extreme edges of the debate.

This includes most of the GOP politicians who suddenly seem to have



gotten "privacy religion" -- even though they loudly supported these programs in the past and actively criticized anyone who spoke against them. We can safely relegate these members of the Grand Old Party (and indeed, some Democrats as well) to the dissembling political opportunism category. For the GOP, anything Obama did is poison and a path toward implementation of their "go to hell ordinary people" political agendas -- even if they lauded the same intelligence activities under Republican presidents.

The "let the people fend for themselves and rot" contingent that makes up a part of the "Libertarian" movement also falls into this category. They just hate government of all kinds, and NSA makes a convenient target. In their fantasies, they'll be out there shooting at the aftermath of dirty bombs and terrorist nukes with their handguns and assault rifles.

And of course there's also the contingent of well-meaning souls who just fervently believe that spying is wrong, and that if somehow the NSA could just be unilaterally defunded the rest of the world's spying agencies -- plus terrorists and their supporters -- would follow along in a glorious "kumbaya moment."

The facts are very different.

Foreign intelligence is gathered by countries all over the world -- it always has been -- long predating the development of electronic communications. Unilateral disarmament in such a context would be unthinkable irresponsible, especially since the raw truth is that there really are groups out there who want to kill us, there are plenty of fissile materials floating around for really nasty bombs, and while we may not like having to play sp y for our own protection (I certainly don't) that desire doesn't change the actual threat profile by a single iota.

This is most certainly not to say that there isn't plenty of room for improvements in the ways that NSA operates. As noted, transparency and oversight is a mess, foreign-directed programs have been leaking into the domestic sphere, and in our toxic political environment this has encouraged the spread of shrill, false, and hyperbolic claims that are doing far more damage than anything actually being done by NSA.

False claims that the content of all phone calls and emails are being recorded, or the existence of "anytime, anywhere, anybody" instant wiretapping capability by low level administrative NSA workers, are but two examples.

Then we have the libelous, fallacious claims that major Internet firms are permitting free reign of their servers to NSA or other agency operatives -- false claims made all the more damaging by existing laws making it impossible for these firms to appropriately defend themselves against such allegations.

And the fallout from all this -- yes, triggered by NSA -- but now aided and abetted by the fearmongers, is a cascading effect of persons who have been unrealistically terrified into closing important sites and otherwise attempting to withdraw into the cave.

For some of the fearmongers this sort of anti-Internet response has been part of their agendas all along, often entwined with broader anti-government sentiments.

For others, it's a lack of proportionality, or lack of understanding of how tyrannical regimes actually operate (hint, I couldn't be openly blogging in any of them).

And for many of the fearful, it's a lack of technical knowledge crucial to separating the wheat from the chaff intrinsic to these discussions and accusations.

In the final analysis of course, we all gotta do what we gotta do. The range of circumstances that individuals face in these contexts will cover the gamut from absolutely justifiable concerns to utterly fantastical paranoia.

But my sense right now is that we're seeing a great deal of "knee-jerk self-censorship" that may seem appropriate if you buy into everything the fearmongers are claiming -- but is likely much less sensible in the light of actual realities.

The echo chamber, feedback effect can exert a very powerful emotional pull on all of us. So it might behoove us all to spend a bit more time pondering how much of what we're seeing amid the NSA furor is likely to be hard reality, and how much is significantly more likely to be the result of hoopla, hype, and hyperbole.

An individual decision to be sure, but an immensely important one, especially since if there's one thing that history teaches us so clearly, it's that fear and withdrawal inevitably lead to darkness, not to sunlight.

--Lauren--

Lauren Weinstein (b) (6) <http://www.vortex.com/lauren>  
Co-Founder: People For Internet Responsibility: <http://www.pfir.org/pfir-info>  
Founder:  
- Network Neutrality Squad: <http://www.nnsquad.org>  
- PRIVACY Forum: <http://www.vortex.com/privacy-info>  
Member: ACM Committee on Computers and Public Policy  
Lauren's Blog: <http://lauren.vortex.com>  
Google+: <http://google.com/+LaurenWeinstein>  
Twitter: <http://twitter.com/laurenweinstein>  
Tel: (b) (6) / Skype: [vortex.com](http://vortex.com)

---

**From:** Stebbins, Michael J.  
**Sent:** Monday, August 19, 2013 5:58 PM  
**To:** 'Vint Cerf'  
**Subject:** RE: open data

Great talking with you as well. I might have had a hand in what?

**From:** Vint Cerf [mailto:(b) (6)]  
**Sent:** Monday, August 19, 2013 5:57 PM  
**To:** Stebbins, Michael J.  
**Subject:** open data

you may have had a hand in crafting this - good meeting today- thanks for taking the time.

vint

---

**From:** Edelman, R. David  
**Sent:** Friday, August 23, 2013 2:11 PM  
**To:** 'Johanna Shelton'  
**Subject:** RE: Google invites you to experience Google Glass

Thanks; already had a chance to play with them, but will see if others have interest.

Cheers,  
-rD

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, August 23, 2013 01:03 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Google invites you to experience Google Glass

please let me know if anyone is interested in trying on Google Glass -

## Please join Google's Washington, DC team for opportunity to try Google Glass

Experience the technology up-close with a product demonstration of Google Glass.

Wednesday, August 28  
9AM - 6PM

*Please stop by at any time convenient*



Long View Gallery  
1234 9th Street NW  
Washington, D.C.

GLASS

RSVP Here

Google

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--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice

(b) (6)

---

**From:** Stebbins, Michael J.  
**Sent:** Tuesday, August 27, 2013 1:34 PM  
**To:** 'Berman, Fran (b) (6)  
**Subject:** RE: pilots

Dear Fran,

My apologies for not getting back to you earlier. I was on vacation and wanted to digest this a bit. This is fantastic and it sounds like the workshop was a success. I just set up a call with folks from PLoS to discuss their involvement. What do think are the next logical steps for making this a reality? Perhaps pulling this together into a more formal proposal that we can share with others including defining some of the key questions that need to be answered before launch?

Best,  
Mike

---

**From:** Berman, Fran [mailto: (b) (6)  
**Sent:** Sunday, August 25, 2013 1:00 PM  
**To:** Stebbins, Michael J. (b) (6) Berman, Fran  
**Subject:** pilots

(Vint, I'm ccing you as I thought you might be interested in this as well. Michael and I had a chance to talk at the NIH Data Catalog workshop last week.)

Michael,

I've been thinking about your question about what pilots we might create to move towards a framework for public access and responsible data stewardship. Below are some thoughts on a pilots that may provide useful experience as we seek to develop more broadly accessible enabling data infrastructure. Note that the quality and stability of the underlying infrastructure and a sound economic model are pre-conditions for real success in all of these.

- **DATA STEWARDSHIP PILOT / PUBLISHERS:** Michael, this was your idea and you'll be happy to know that it gained "legs" on Day 2 at the workshop. Nature Genetics (Myles Axton), and Nuclear Receptor Signaling at Biomedcentral would be willing to ensure that there is a link behind every "graph" (i.e. reference to data) that provides the raw data, and participants suggested that PLoS be included as well. Note that the graph links mean that the data will need to be hosted somewhere (by the publication or elsewhere) and that readers should reasonably expect that the data will be live as long as they can access the article. Interesting problems to be solved with this: i) What if the graph is a movie / simulation backed up by 10's or 100's of terabytes of raw data? (This is the case for some earthquake and astrophysics simulation results). Who takes responsibility for such a "big" dataset?, ii) What if the data set can be updated / freshened over time? What should the graph link point to?, How should the data set be "versioned" and what metadata should be available, etc.
- **DATA STEWARDSHIP PILOT / ACADEMIC SECTOR:** The library and repository communities are each beginning to come together with an interest in "catching", hosting, and providing appropriate adjuvant services for research data. Two groups I'm watching closely are the Digital Preservation Network (DPN, <http://www.dpn.org/>), a group of roughly 50+ libraries who have formed a network to host and preserve research data. This might be an interesting group to approach about a "jumpstart" stewardship pilot. The key folks there are James Hilton and Steve Morales. Similarly, George Alter (who heads up ICPSR in Michigan, <http://www.icpsr.umich.edu/icpsrweb/landing.jsp>) told me that roughly 2 dozen repositories are starting to come together to create appropriate social and technical infrastructure for broader data stewardship. This group includes repositories for social science data, life science data, astronomy data, etc. These folks would also be good to approach about a "jumpstart" stewardship pilot. (By "jumpstart" I mean that they probably need

support up front to create a broader public access community resource but should be expected to create a viable sustainable business model with low barrier to access for users down the line).

- **DATA STEWARDSHIP PILOT / PRIVATE SECTOR:** Guha Ramanathan's serious offer to explore the possibility of Google hosting research data and some relevant services was tremendously appealing. Many of the problems we have in the academic world vis a vis data and compute infrastructure not meeting needs for capacity, stability or robustness would be addressed by this kind of public-private partnership. Moreover, scientists should be able to operate in their professional lives at at least the level of sophistication wrt tools and services that they enjoy in their "real life". Private stewardship of research data would help with this. That being said, clear rules of engagement about what can be done with public access research data, what services would be provided and under what circumstances, what happens if the private company steward changes its mind, etc. need to be ironed out in order for this to really work.

Your talk at the workshop was great and It's wonderful to see this level of engagement by the administration. I'd love to help move things forward in any way that's useful. Let me know what you think and I look forward to talking when we can.

Fran

*Dr. Francine Berman*

Chair, Research Data Alliance / U.S.

Edward G. Hamilton Distinguished Professor in Computer Science

Director, Center for a Digital Society

Rensselaer Polytechnic Institute

<http://www.cs.rpi.edu/~bermaf/>

---

**From:** Stebbins, Michael J.  
**Sent:** Tuesday, August 27, 2013 4:59 PM  
**To:** 'Berman, Fran' (b) (6)  
**Subject:** RE: pilots

Excellent! How is next Tuesday looking? By more formalize I mean pulling together a more detailed proposal for a pilot that we can shop around to publishers, agencies, the RDA members, Google and whomever else we think needs to be engaged to get it running. For example, I like the idea of a Data Stewardship project, but don't have a solid sense of the end goals that we might use as metrics for success.

Best,  
Mike

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**From:** Berman, Fran [mailto: (b) (6)]  
**Sent:** Tuesday, August 27, 2013 4:30 PM  
**To:** Stebbins, Michael J. (b) (6)  
**Subject:** RE: pilots

Hi Mike,

That sounds reasonable. It would be useful to know what you mean by a more formal proposal and who might be involved. It would also be good for us to strategize about how RDA/U.S. could help. Would it be useful for us to have a short call next week to discuss? I'm not on travel and relatively free. Vint, can you join us? Let me know. Thanks!

Fran

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Director, Center for a Digital Society  
Rensselaer Polytechnic Institute  
<http://www.cs.rpi.edu/~bermaf/>

---

**From:** Stebbins, Michael J. [mailto: (b) (6)]  
**Sent:** Tuesday, August 27, 2013 1:34 PM  
**To:** Berman, Fran (b) (6)  
**Subject:** RE: pilots

Dear Fran,

My apologies for not getting back to you earlier. I was on vacation and wanted to digest this a bit. This is fantastic and it sounds like the workshop was a success. I just set up a call with folks from PLoS to discuss their involvement. What do think are the next logical steps for making this a reality? Perhaps pulling this together into a more formal proposal that we can share with others including defining some of the key questions that need to be answered before launch?

Best,  
Mike

---

**From:** Berman, Fran [mailto: (b) (6)]  
**Sent:** Sunday, August 25, 2013 1:00 PM  
**To:** Stebbins, Michael J. (b) (6) Berman, Fran  
**Subject:** pilots



(Vint, I'm ccing you as I thought you might be interested in this as well. Michael and I had a chance to talk at the NIH Data Catalog workshop last week.)

Michael,

I've been thinking about your question about what pilots we might create to move towards a framework for public access and responsible data stewardship. Below are some thoughts on a pilots that may provide useful experience as we seek to develop more broadly accessible enabling data infrastructure. Note that the quality and stability of the underlying infrastructure and a sound economic model are pre-conditions for real success in all of these.

- **DATA STEWARDSHIP PILOT / PUBLISHERS:** Michael, this was your idea and you'll be happy to know that it gained "legs" on Day 2 at the workshop. Nature Genetics (Myles Axton), and Nuclear Receptor Signaling at Biomedcentral would be willing to ensure that there is a link behind every "graph" (i.e. reference to data) that provides the raw data, and participants suggested that PLOS be included as well. Note that the graph links mean that the data will need to be hosted somewhere (by the publication or elsewhere) and that readers should reasonably expect that the data will be live as long as they can access the article. Interesting problems to be solved with this: i) What if the graph is a movie / simulation backed up by 10's or 100's of terabytes of raw data? (This is the case for some earthquake and astrophysics simulation results). Who takes responsibility for such a "big" dataset?, ii) What if the data set can be updated / freshened over time? What should the graph link point to?, How should the dataset be "versioned" and what metadata should be available, etc.
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Fran

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Chair, Research Data Alliance / U.S.

Edward G. Hamilton Distinguished Professor in Computer Science

Director, Center for a Digital Society



**From:** Edelman, R. David  
**Sent:** Tuesday, August 27, 2013 11:47 AM  
**To:** Ross LaJeunesse (b) (6)  
**Subject:** Pakistan & YouTube

Hey Ross,

Hope you've been well. A quick question for you: before the shutdown, how many users per day in Pakistan accessed YouTube? And how does that compare to other countries in the region vs. the world (in terms of raw traffic numbers)?

Thanks,  
-David

<><><><><><><><><><>

R. David Edelman

Senior Advisor for Internet, Innovation & Privacy  
National Economic Council | OSTP | The White House

ph: (202 (b) (6) | asst: (202 (b) (6) (b) (6)

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**From:** Stebbins, Michael J.  
**Sent:** Tuesday, August 27, 2013 5:13 PM  
**To:** 'Berman, Fran (b) (6)'  
**Subject:** RE: pilots

3pm ET next Tuesday works well for me.

---

**From:** Berman, Fran [mailto:(b) (6)]  
**Sent:** Tuesday, August 27, 2013 5:06 PM  
**To:** Stebbins, Michael J. (b) (6)  
**Subject:** RE: pilots

Makes sense. Next Tuesday is good for me between 11:00 and 12:45 and after 3:00 EDT. Mike, do any of those times work for you? Vint, can you join us?

Fran

*Dr. Francine Berman*  
Chair, Research Data Alliance / U.S.  
Edward G. Hamilton Distinguished Professor in Computer Science  
Director, Center for a Digital Society  
Rensselaer Polytechnic Institute  
<http://www.cs.rpi.edu/~bermaf/>

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**From:** Stebbins, Michael J. [mailto:(b) (6)]  
**Sent:** Tuesday, August 27, 2013 4:59 PM  
**To:** Berman, Fran (b) (6)  
**Subject:** RE: pilots

Excellent! How is next Tuesday looking? By more formalize I mean pulling together a more detailed proposal for a pilot that we can shop around to publishers, agencies, the RDA members, Google and whomever else we think needs to be engaged to get it running. For example, I like the idea of a Data Stewardship project, but don't have a solid sense of the end goals that we might use as metrics for success.

Best,  
Mike

---

**From:** Berman, Fran [mailto:(b) (6)]  
**Sent:** Tuesday, August 27, 2013 4:30 PM  
**To:** Stebbins, Michael J. (b) (6)  
**Subject:** RE: pilots

Hi Mike,

That sounds reasonable. It would be useful to know what you mean by a more formal proposal and who might be involved. It would also be good for us to strategize about how RDA/U.S. could help. Would it be useful for us to have a short call next week to discuss? I'm not on travel and relatively free. Vint, can you join us? Let me know. Thanks!

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<http://www.cs.rpi.edu/~bermaf/>

---

**From:** Stebbins, Michael J. [mailto:(b) (6)]  
**Sent:** Tuesday, August 27, 2013 1:34 PM  
**To:** Berman, Fran (b) (6)  
**Subject:** RE: pilots

Dear Fran,

My apologies for not getting back to you earlier. I was on vacation and wanted to digest this a bit. This is fantastic and it sounds like the workshop was a success. I just set up a call with folks from PLoS to discuss their involvement. What do you think are the next logical steps for making this a reality? Perhaps pulling this together into a more formal proposal that we can share with others including defining some of the key questions that need to be answered before launch?

Best,  
Mike

---

**From:** Berman, Fran [mailto:(b) (6)]  
**Sent:** Sunday, August 25, 2013 1:00 PM  
**To:** Stebbins, Michael J. (b) (6); Berman, Fran  
**Subject:** pilots

(Vint, I'm ccing you as I thought you might be interested in this as well. Michael and I had a chance to talk at the NIH Data Catalog workshop last week.)

Michael,

I've been thinking about your question about what pilots we might create to move towards a framework for public access and responsible data stewardship. Below are some thoughts on a pilots that may provide useful experience as we seek to develop more broadly accessible enabling data infrastructure. Note that the quality and stability of the underlying infrastructure and a sound economic model are pre-conditions for real success in all of these.

- **DATA STEWARDSHIP PILOT / PUBLISHERS:** Michael, this was your idea and you'll be happy to know that it gained "legs" on Day 2 at the workshop. Nature Genetics (Myles Axton), and Nuclear Receptor Signaling at Biomedcentral would be willing to ensure that there is a link behind every "graph" (i.e. reference to data) that provides the raw data, and participants suggested that PLoS be included as well. Note that the graph links mean that the data will need to be hosted somewhere (by the publication or elsewhere) and that readers should reasonably expect that the data will be live as long as they can access the article. Interesting problems to be solved with this: i) What if the graph is a movie / simulation backed up by 10's or 100's of terabytes of raw data? (This is the case for some earthquake and astrophysics simulation results). Who takes responsibility for such a "big" dataset?, ii) What if the data set can be updated / freshened over time? What should the graph link point to?, How should the dataset be "versioned" and what metadata should be available, etc.
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Fran

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<http://www.cs.rpi.edu/~bermaf/>

**From:** Edelman, R. David  
**Sent:** Tuesday, September 03, 2013 9:27 AM  
**To:** Johanna Shelton  
**Subject:** RE: you around today?

Johanna,

Sorry for the delay, I was in SF Friday. Back today. I think we are overdue to get together; what's your schedule like tomorrow? Perhaps you'd like to drop by around 4pm?

Alternatively, it occurs to me that I've yet to visit your offices, and have yet to meet Susan – perhaps we could schedule a drop-by there this week or next?

Best,  
-David

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**R. David Edelman**  
Senior Advisor for Internet, Innovation & Privacy  
National Economic Council | OSTP | The White House  
ph: (202) (b) (6) | asst: (202) (b) (6) (b) (6)

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Friday, August 30, 2013 3:01 PM  
**To:** Edelman, R. David  
**Subject:** you around today?

have some patent ideas for you

—

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Stebbins, Michael J.  
**Sent:** Thursday, August 29, 2013 4:40 PM  
**To:** 'Carla LaFever'; Fran Berman  
**Cc:** Vint  
**Subject:** RE: New Event: Berman/Cerf/Stebbins @ Tue Sep 3, 2013 3pm - 3:30pm (Vint Cerf)

Thanks Carla,  
Does Vint have any other open times that day or the day after?  
Regards,  
Mike

**From:** Carla LaFever [mailto: (b) (6)]  
**Sent:** Thursday, August 29, 2013 4:39 PM  
**To:** Fran Berman; Stebbins, Michael J.  
**Cc:** Vint  
**Subject:** Fwd: New Event: Berman/Cerf/Stebbins @ Tue Sep 3, 2013 3pm - 3:30pm (Vint Cerf)

Michael,

Vint will be in transit at the time of this call so he is unable to participate.

Carla

----- Forwarded message -----

**From:** Stebbins, Michael J. (b) (6)  
**Date:** Thu, Aug 29, 2013 at 4:20 PM  
**Subject:** New Event: Berman/Cerf/Stebbins @ Tue Sep 3, 2013 3pm - 3:30pm (Vint Cerf)  
**To:** (b) (6) (b) (6)

**more details »**

**Berman/Cerf/Stebbins**

To discuss data access pilots...

(Vint, I'm ccing you as I thought you might be interested in this as well. Michael and I had a chance to talk at the NIH Data Catalog workshop last week.)

Michael,

I've been thinking about your question about what pilots we might create to move towards a framework for public access and responsible data stewardship. Below are some thoughts on a pilots that may provide useful experience as we seek to develop more broadly accessible enabling data infrastructure. Note that the quality and stability of the underlying infrastructure and a sound economic model are pre-conditions for real success in all of these.

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What should the graph link point to?, How should the dataset be "versioned" and what metadata should be available, etc.

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<http://www.cs.rpi.edu/~bermaf/>

When Tue Sep 3, 2013 3pm – 3:30pm Eastern Time

Where (b) (6) Cod (b) (6) ([map](#))

Calendar Vint Cerf

Who

- Stebbins, Michael J. - organizer
- Vint Cerf - creator
- Berman, Fran (b) (6)

Invitation from [Google Calendar](#)

You are receiving this email at the account (b) (6) because you are subscribed for new event notifications on calendar Vint Cerf.

To stop receiving these notifications, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

--

Carla LaFever  
Chief of Staff to Vinton G. Cerf

Google  
1818 Library Street

Suite 400  
Reston, VA 20190

(b) (6)

Hey,

-rD

1

Senior Advisor for Internet, Innovation & Privacy

National Economic Council | OSTP | The White House

ph: (202) (b) (6) | asst: (202) (b) (6) (b) (6)

**From:** Johanna Shelton [mailto:(b) (6)]

**Sent:** Friday, August 30, 2013 3:01 PM

**To:** Edelman, R. David

**Subject:** you around today?

have some patent ideas for you

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Johanna Shelton

Senior Policy Counsel

Google Inc.

1101 New York Ave NW, 2nd Fl

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--

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(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Tuesday, September 03, 2013 9:37 PM  
**To:** Johanna Shelton  
**Subject:** RE: streaming

Thanks

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Tuesday, September 03, 2013 7:25 PM  
**To:** Edelman, R. David  
**Subject:** streaming

i'm sure you've seen [this](#)

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

**From:** Edelman, R. David  
**Sent:** Thursday, September 05, 2013 8:31 AM  
**To:** Ross LaJeunesse; Ann Lavin; Mike Orgill  
**Cc:** Johanna Shelton  
**Subject:** RE: Pakistan & YouTube

Thanks, Ross. No worries, I hope you enjoyed your time away. Mike, Ann, thanks in advance for your help.

Best,  
-David

[illegible]

R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

direct: (202 (b) (6) | topline: (202 (b) (6) | (b) (6)

**From:** Ross LaJeunesse [mailto:[\(b\) \(6\)](#)]  
**Sent:** Thursday, September 05, 2013 8:24 AM  
**To:** Edelman, R. David; Ann Lavin; Mike Orgill  
**Cc:** Johanna Shelton  
**Subject:** Re: Pakistan & YouTube

david -- great to hear from you and apologies for the delay; just returning from time away from the office

i'm looping in my colleagues ann lavin and mike orgill -- ann is our policy director for most of asia and mike is the country lead for pakistan

ann and mike, david is one of our very good friends at the white house

ROSS

On Tue, Aug 27, 2013 at 11:46 AM, Edelman, R. David (b) (6) wrote:

Hey Ross,

Hope you've been well. A quick question for you: before the shutdown, how many users per day in Pakistan accessed YouTube? And how does that compare to other countries in the region vs. the world (in terms of raw traffic numbers)?

Thanks,

-David



---

**From:** Edelman, R. David  
**Sent:** Friday, September 27, 2013 4:04 PM  
**To:** 'Johanna Shelton'  
**Subject:** RE: quick call this afternoon?

Today is pretty stacked up -- urgent, or how about some time Monday?

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, September 27, 2013 03:01 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** quick call this afternoon?

any chance we can give you our 10 min perspective on the patent legislative developments in a quick call today?

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)



---

**From:** Edelman, R. David  
**Sent:** Monday, September 30, 2013 9:13 AM  
**To:** 'Johanna Shelton'  
**Cc:** 'Suzanne Michel'  
**Subject:** 11:40am work?

With shutdown angst things are crazy today, so sorry for the specificity. Is that alright?

-rD

---

**From:** Edelman, R. David  
**Sent:** Monday, September 30, 2013 9:30 AM  
**To:** 'Suzanne Michel'  
**Cc:** 'Johanna Shelton'  
**Subject:** RE: 11:40am work?

I'll call direct. Thanks!

-----Original Message-----

**From:** Suzanne Michel (b) (6)  
**Sent:** Monday, September 30, 2013 09:28 AM Eastern Standard Time  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton  
**Subject:** Re: 11:40am work?

Yes, Thanks very much for making time during the craziness.  
You can reach me at the number below (b) (6)  
I can also send a call-in number or call you if that is easier for you.

Suzanne

On Mon, Sep 30, 2013 at 9:12 AM, Edelman, R. David (b) (6) wrote:  
With shutdown angst things are crazy today, so sorry for the specificity. Is that alright?

-rD

--

---

Suzanne Michel | Senior Patent Counsel, Google (b) (6) (b) (6)

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**From:** Edelman, R. David  
**Sent:** Monday, September 30, 2013 11:44 AM  
**To:** Suzanne Michel  
**Subject:** RE: 11:40am work?

(b)(6)

**From:** Suzanne Michel [mailto:(b)(6)]  
**Sent:** Monday, September 30, 2013 9:28 AM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton  
**Subject:** Re: 11:40am work?

Yes, Thanks very much for making time during the craziness.  
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---

--  
Suzanne Michel | Senior Patent Counsel, Google (b)(6) (b)(6)

---

**From:** Charlie Hale (b) (6)  
**Sent:** Wednesday, February 27, 2013 7:49 PM  
**To:** Edelman, R. David  
**Subject:** Re: meeting in DC

David,

I also wanted to follow-up about the event on April 10th. ITIF is keen to have someone from OSTP join the panel and wondered if you'd be interested. You can see more info [here](#).

Any interest?

Thanks,  
-Charlie

On Mon, Feb 25, 2013 at 8:10 AM, Charlie Hale (b) (6) wrote:  
Hi David,

I just wanted to follow-up on our conversation a few weeks ago to see if you're still interested in meeting in DC? Some of the project leads will be coming out around April 10th so I wanted to see if your group might be free to meet then.

Hope you're doing well,  
-Charlie

--  
Charlie Hale | Google Public Policy (b) (6)

--  
Charlie Hale | Google Public Policy (b) (6)

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**From:** Edelman, R. David  
**Sent:** Wednesday, September 11, 2013 3:10 PM  
**To:** 'Johanna Shelton'  
**Subject:** RE: any word on Kent's visit

Checking again

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Wednesday, September 11, 2013 02:58 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** any word on Kent's visit

and whether it can help on your end?

headed into some mtgs but will call u later today.

hope all is well

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

**From:** Edelman, R. David  
**Sent:** Thursday, September 12, 2013 11:56 AM  
**To:** Johanna Shelton  
**Subject:** RE: Google mtg request

Johanna,

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All the best,  
-David

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**R. David Edelman**  
Senior Advisor for Internet, Innovation & Privacy  
National Economic Council | OSTP | The White House  
ph: (202) (b) (6) | asst: (202) (b) (6) (b) (6)

**From:** Johanna Shelton [mailto:[\(b\) \(6\)](#)]  
**Sent:** Monday, September 09, 2013 1:12 PM  
**To:** Nelson, Greg  
**Cc:** Walker, Burden; Edelman, R. David  
**Subject:** Google mtg request

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Okay...keep me posted, I'm holding both times in my calendar.

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Thursday, September 12, 2013 12:26 PM  
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**From:** Edelman, R. David  
**Sent:** Thursday, September 05, 2013 8:51 AM  
**To:** Mike Orgill  
**Cc:** Ross LaJeunesse; Ann Lavin; Johanna Shelton  
**Subject:** RE: Pakistan & YouTube

Thanks, Mike. Appreciate the update. Do you have a sense of timeline under which the government might take either of those two steps, and who have your chief interlocutors been?

-rD

**From:** Mike Orgill [mailto:(b) (6)]  
**Sent:** Thursday, September 05, 2013 8:49 AM  
**To:** Edelman, R. David  
**Cc:** Ross LaJeunesse; Ann Lavin; Johanna Shelton  
**Subject:** Re: Pakistan & YouTube

Hi David,

On YouTube numbers for Pakistan - we unfortunately aren't able to share them externally.

Pakistan is approaching its one year "anniversary" for blocking YouTube and there have been a lot of people calling for the new Government to review its blocking policy. The Government is simultaneously working on two approaches to resolving the issue that will be politically palatable.

1. Developing a filter that is able to block individual videos on YouTube. They are testing this now but are struggling since YouTube traffic is largely encrypted.
2. The Ministry of IT is trying to convince the various military and intelligence agencies that have a say in the decision that since YouTube has now placed a warning in front of all copies of the original 'Innocence of Muslims' video that we have provided sufficient political cover for them to unblock YouTube. Apparently discussions are ongoing. This line of argument worked well in Bangladesh who recently decided to unblock YouTube and used the YouTube warnings as justification for their decision.

Our obvious preference is for the latter, but we'll have to wait and see what happens.

Hope this helps!

Best,  
Mike

On Thu, Sep 5, 2013 at 6:00 PM, Edelman, R. David (b) (6) wrote:

Thanks, Ross. No worries, I hope you enjoyed your time away. Mike, Ann, thanks in advance for your help.

Best,

-David

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R. David Edelman

Senior Advisor for Internet, Innovation, and Privacy | The White House

direct: (202 (b) (6) | topline: (202 (b) (6) | (b) (6)

**From:** Ross LaJeunesse [mailto:(b) (6)]  
**Sent:** Thursday, September 05, 2013 8:24 AM  
**To:** Edelman, R. David; Ann Lavin; Mike Orgill  
**Cc:** Johanna Shelton  
**Subject:** Re: Pakistan & YouTube

david -- great to hear from you and apologies for the delay; just returning from time away from the office

i'm looping in my colleagues ann lavin and mike orgill -- ann is our policy director for most of asia and mike is the country lead for pakistan

ann and mike, david is one of our very good friends at the white house

ROSS

On Tue, Aug 27, 2013 at 11:46 AM, Edelman, R. David (b) (6) wrote:

Hey Ross,



Hope you've been well. A quick question for you: before the shutdown, how many users per day in Pakistan accessed YouTube? And how does that compare to other countries in the region vs. the world (in terms of raw traffic numbers)?

Thanks,

-David

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## Ross LaJeunesse

## Global Head of Free Expression and International Relations

Google Inc.

**This email may be confidential and/or privileged. If you are not the intended recipient, please: do not forward the email to others, delete all copies/attachments, and inform the sender of the error. Thank you.**

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**Subject:** Berman/Cerf/Stebbins  
**Location:** (b) (6) Cod (b) (6)  
**Start:** Tue 9/3/2013 3:00 PM  
**End:** Tue 9/3/2013 3:30 PM  
**Show Time As:** Tentative  
**Recurrence:** (none)  
**Meeting Status:** Not yet responded  
**Organizer:** Stebbins, Michael J.  
**Required Attendees:** Vint Cerf, Berman, Fran (b) (6)

To discuss data access pilots...

(Vint, I'm ccing you as I thought you might be interested in this as well. Michael and I had a chance to talk at the NIH Data Catalog workshop last week.)

Michael,

I've been thinking about your question about what pilots we might create to move towards a framework for public access and responsible data stewardship. Below are some thoughts on a pilots that may provide useful experience as we seek to develop more broadly accessible enabling data infrastructure. Note that the quality and stability of the underlying infrastructure and a sound economic model are pre -conditions for real success in all of these.

- **DATA STEWARDSHIP PILOT / PUBLISHERS:** Michael, this was your idea and you'll be happy to know that it gained "legs" on Day 2 at the workshop. Nature Genetics (Myles Axton), and Nuclear Receptor Signaling at Biomedcentral would be willing to ensure that there is a link behind every "graph" (i.e. reference to data) that provides the raw data, and participants suggested that PLOS be included as well. Note that the graph links mean that the data will need to be hosted some where (by the publication or elsewhere) and that readers should reasonably expect that the data will be live as long as they can access the article. Interesting problems to be solved with this: i) What if the graph is a movie / simulation backed up by 10 's or 100's of terabytes of raw data? (This is the case for some earthquake and astrophysics simulation results). Who takes responsibility for such a "big" dataset?, ii) What if the data set can be updated / freshened over time? What should the graph link point to?, How should the dataset be "versioned" and what metadata should be available, etc.
- **DATA STEWARDSHIP PILOT / ACADEMIC SECTOR:** The library and repository communities are each beginning to come together with an interest in "catching", hosting , and providing appropriate adjuvant services for research data. Two groups I'm watching closely are the Digital Preservation Network (DPN, <http://www.dpn.org/>), a group of roughly 50+ libraries who have formed a network to host and preserve research data. This might be an interesting group to approach about a "jumpstart" stewardship pilot. The key folks there are James Hilton and Steve Morales. Similarly, George Alter (who heads up ICPSR in Michigan, <http://www.icpsr.umich.edu/icpsrweb/landing.jsp>) told me that roughly 2 dozen repositories are starting to come together to create appropriate social and technical infrastructure for broader data stewardship. This group includes repositories for social science data, life science data, astronomy data, etc. These folks would also be good to approach about a "jumpstart" stewardship pilot. (By "jumpstart" I mean that they probably need support up front to create a broader public access community resource but should be expected to create a viable sustainable business model with low barrier to access for users down the line).

- **DATA STEWARDSHIP PILOT / PRIVATE SECTOR:** Guha Ramanathan's serious offer to explore the possibility of Google hosting research data and some relevant services was tremendously appealing. Many of the problems we have in the academic world vis a vis data and compute infrastructure not meeting needs for capacity, stability or robustness would be addressed by this kind of public-private partnership. Moreover, scientists should be able to operate in their professional lives at at least the level of sophistication wrt tools and services that they enjoy in their "real life". Private stewardship of research data would help with this. That being said, clear rules of engagement about what can be done with public access research data, what services would be provided and under what circumstances, what happens if the private company steward changes its mind, etc. need to be ironed out in order for this to really work.

Your talk at the workshop was great and It's wonderful to see this level of engagement by the administration. I'd love to help move things forward in any way that's useful. Let me know what you think and I look forward to talking when we can.

Fran

*Dr. Francine Berman*

Chair, Research Data Alliance / U.S.

Edward G. Hamilton Distinguished Professor in Computer Science

Director, Center for a Digital Society

Rensselaer Polytechnic Institute

<http://www.cs.rpi.edu/~bermaf/>

---

**From:** Edelman, R. David  
**Sent:** Monday, September 16, 2013 3:03 PM  
**To:** 'Johanna Shelton'  
**Subject:** RE: Google mtg request

Just following up on this: is Kent coming to town this week? Thanks, -rD

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
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**From:** Edelman, R. David  
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**To:** Johanna Shelton  
**Subject:** Automatic reply: Google mtg request

AUTOREPLY: I will be away from my email for much of the day Monday, September 15.

If you need to contact me urgently, please contact Danna O'Rourke (b) (6) with whom I will be checking in throughout the day.

Digitally yours,  
-Automated R. David Edelman



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**From:** Edelman, R. David  
**Sent:** Monday, September 16, 2013 3:20 PM  
**To:** 'Johanna Shelton'  
**Subject:** RE: Google mtg request

Let's do Thursday 2-3?

-----Original Message-----

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Johanna,

Looking forward to seeing Kent next week. Unfortunately, with Cabinet meetings and some POTUS speeches on deck, Gene is not going to be able to join us – which also kept us from pulling together a larger patent event here. The latter is still on the horizon though, and when it does, we'll definitely send an invite his and your way.

As for the meeting next week, would Kent be available at **11:00am on Thursday the 19<sup>th</sup>**?

-David

R. David Edelman

National Economic Council | OSTP | The White House

ph: (202) (b) (6) | asst: (202) (b) (6) (b) (6)

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Monday, September 09, 2013 1:12 PM  
**To:** Nelson, Greg  
**Cc:** Walker, Burden; Edelman, R. David  
**Subject:** Google mtg request

Google's General Counsel Kent Walker will be in Washington DC Sept 18 -20th and would like to meet with Gene Sperling if he is available in that timeframe. Kent would like to commend the Administration's continuing efforts to improve patent quality and discuss other Internet sector policy priorities.

Is Mr. Sperling available to meet Sept 18th, 19th or 20th?

Please let me know if you have any questions.

many thanks

- Johanna



## Introduction

### Kent Walker

#### Senior Vice President & General Counsel, Google

Kent is responsible for managing Google's global legal team and advising the company's board and management on legal issues.

Before joining Google, Kent held senior legal positions at a number of leading technology companies. Most recently he was Deputy General Counsel of eBay Inc., where he managed corporate legal affairs, litigation, and legal operations. Previously, he was Executive Vice President of Liberate Technologies, a provider of interactive services software founded by Oracle and Netscape Communications. He also served as Associate General Counsel for Netscape and America Online and Senior Counsel for AirTouch Communications, which was later acquired by Vodafone.

Earlier in his career, Kent was an Assistant U.S. Attorney with the United States Department of Justice, where he specialized in the prosecution of technology crimes and advised the Attorney General on management and technology issues.

Kent has served on the boards of several technology industry trade associations. He graduated from Harvard College and Stanford Law School.

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

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(b) (6)

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**From:** Edelman, R. David  
**Sent:** Tuesday, September 17, 2013 11:55 AM  
**To:** Johanna Shelton  
**Subject:** Automatic reply: Security info - Google mtg

AUTOREPLY: I will be largely away from my email on Tuesday, September 17.

If you need to contact me urgently, please contact Danna O'Rourke (b) (6) with whom I will be checking in throughout the day.

You may also wish to contact Tom Power a (b) (6) (b) (6)

Digitally yours,  
-Automated R. David Edelman

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**From:** Edelman, R. David  
**Sent:** Tuesday, September 17, 2013 11:57 AM  
**To:** 'Johanna Shelton'  
**Subject:** RE: Security info - Google mtg

Received, thank you. Looking forward to seeing you on Thursday.

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Tuesday, September 17, 2013 11:55 AM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Security info - Google mtg

here is the security info for the Thurs 2pm mtg. thanks!

--  
Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Edelman, R. David  
**Sent:** Thursday, September 19, 2013 2:01 PM  
**To:** Johanna Shelton  
**Subject:** RE: What room?

596

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Thursday, September 19, 2013 1:53 PM  
**To:** Edelman, R. David  
**Subject:** What room?

---

**From:** Kalil, Thomas A.  
**Sent:** Saturday, September 21, 2013 2:21 PM  
**To:** Arthur Bienenstock  
**Cc:** Sally Rockey; Clifford Gabriel (b) (6) Kelvin Droegemeier; Ed Lazowska  
**Subject:** RE: A-21 and Cloud usage

Dear Artie:

Thanks - let me look into this and get back to you.

All the best,

Tom

-----Original Message-----

From: Arthur Bienenstock [mailto:(b) (6)]  
Sent: Saturday, September 21, 2013 2:19 PM  
To: Kalil, Thomas A.  
Cc: Sally Rockey; Clifford Gabriel (b) (6) Kelvin Droegemeier; Ed Lazowska  
Subject: A-21 and Cloud usage

Tom,

This is written to second Vint's message about A -21 and cloud usage. The point was raised by Ed is his presentation to the National Science Board on Thursday. In the present A -21, indirect cost charges are placed on subscriptions to cloud services, whereas they are not placed on capital expenditures on computing equipment. This yields a disincentive to use cloud services compared to buying computer equipment. Given that A -21 is presently being revised and combined into the Omnibus, this might be changed. That is, cloud usage could be included in the items excluded from modified total direct costs.

Artie

Sent from my iPad  
Arthur Bienenstock  
Director, Wallenberg Research Link  
Special Assistant to the President for Federal Research Policy Stanford University Bldg. 160, Room 224 Stanford, CA 94305-2205  
Phone: (b) (6)

---

**From:** Vint Cerf (b) (6)  
**Sent:** Tuesday, March 12, 2013 3:35 PM  
**To:** Frye, Joan  
**Cc:** Stebbins, Michael J.  
**Subject:** Re: Citizen Science

Will do, Joan- thanks for seeing me on no notice!

v

On Tue, Mar 12, 2013 at 3:31 PM, Frye, Joan (b) (6) wrote:

Vinton,

It was a pleasure meeting you this afternoon. As we discussed in my office, I am trying to put together a Champions of Change event (<http://www.whitehouse.gov/champions>) this spring that will feature citizen science. Therefore, I'm inviting you to share your thoughts on any truly exemplary citizen science projects that you have come across.

Please feel free to call or send email if you have any questions.

Many thanks,

Joan

Joan M. Frye, PhD

Senior Policy Analyst

Executive Office of the President

Office of Science and Technology Policy

Eisenhower Executive Office Building

Washington, DC 20504

(b) (6)



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**From:** Eric Schmidt (b) (6)  
**Sent:** Tuesday, March 12, 2013 4:40 PM  
**To:** Holdren, John P.; Eric Lander  
**Subject:** scientific journals

John and Eric, the attached is a memo from the leader of Google Scholar. Can you point me to the right person in OSTP to continue the conversations ! Thanks Eric

\*\*\*\*\*

The OSTP has recently directed federal agencies with over \$100 million in annual R&D funding to develop plans to increase public access to the results of the funded research. This is a welcome development. As the memorandum for this directive notes, scientific research supported by the federal government catalyzes innovative breakthroughs that drive much of our economy.

The directive asks agencies to include several key components in their plans for scholarly articles resulting from federally funded research:

1. Facilitate easy public search, analysis of, and access to peer -reviewed scholarly publications;
2. Ensure full public access to publications' metadata without charge upon first publication;
3. Ensure that publications and metadata are stored i n an archival solution that provides for long -term preservation and access to the content without charge;
4. Identify resources within the existing agency budget to implement the plan.

The directive wisely encourages public-private collaboration to maxim ize the impact of the federal research investment.

At Google, we share the belief that it is crucial that all researchers are able to discover, read and build upon what their colleagues have learnt. For this, we have developed Google Scholar which works with publishers, scholarly societies, libraries, government agencies and inter -governmental agencies worldwide to provide a free search interface to all research articles available online. It is currently the most widely used search service for scholarly articles.

To help facilitate the implementation of this directive, Google would be willing to implement and operate a repository for scholarly articles that federal agencies that don't already have such a repository would be able to use to implement their public access plan. The proposed repository would support the features mentioned in the directive and would be available to all participating federal agencies at no charge. Given the current tight budgetary environment, we believe that such a collaboration would facilitate a timely implementation of the public access plans. The repository would be implemented and operated on behalf of the agencies. If at a later point, one or more agencies would like to use a different repository, they would be able to move their articles to the new repository.

We would be happy to discuss this proposal in detail with designated officials at the OSTP as well as at individual federal agencies.

---

**From:** Eric Schmidt (b) (6)  
**Sent:** Tuesday, March 12, 2013 4:54 PM  
**To:** Holdren, John P.  
**Cc:** Eric Lander; Kalil, Thomas A.; Stebbins, Michael J.; Siger, Rick; Wackler, Ted M.  
**Subject:** Re: scientific journals

Thank you !!! Will follow up asap

On Mar 12, 2013, at 4:52 PM, "Holdren, John P." (b) (6) wrote:

> Eric --

>

> Thanks for this note. The OSTP leads for the public -access initiative have been Tom Kalil, OSTP Deputy Director for Technology and Innovation, and Mike Stebbins, Assistant Director for Biotechnology in OSTP's Science Division. I'd suggest your folks connect with both of them.

>

(b) (6) (b) (6)

>

(b) (6) (b) (6)

>

> Cheers,

> John

>

> JOHN P. HOLDREN, PhD

> Assistant to the President for Science and Technology and Director,

> Office of Science and Technology Policy Executive Office of the

> President of the United States email (b) (6) direct

> phon (b) (6) assistant Karrie Pitze (b) (6)

(b) (6)

>

> -----Original Message-----

> From: Eric Schmidt [mailto:(b) (6)]

> Sent: Tuesday, March 12, 2013 4:40 PM

> To: Holdren, John P.; Eric Lander

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> We would be happy to discuss this proposal in detail with designated officials at the OSTP as well as at individual federal agencies.

>

---

**From:** George Ivanov (b) (6)  
**Sent:** Tuesday, March 12, 2013 8:46 PM  
**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

Hi Mike,

Would you be available for a quick call tomorrow at 5 pm?

Sincerely,  
George

On Tue, Mar 12, 2013 at 5:16 PM, Stebbins, Michael J. (b) (6) wrote:

Dear George,

We just heard from Eric Schmidt about the interest in having Google Scholar play a role in the archiving. Do you have time to talk this week?

Regards,

Mike

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 6:03 PM

**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

Thursday after 3pm would work well.

On Mon, Feb 25, 2013 at 5:58 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks! Absolutely. How are your Thursday and Friday afternoons looking?

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 5:43 PM  
**To:** Sinai, Nick  
**Cc:** (b) (6) Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

Hello Nick and Mike,

We just issued a blog post regarding Friday's memorandum. This is a great step forward and we would be interested in learning about any related federal initiatives that might be in the works. Mike, would you have time for a quick call later this week?

Sincerely,

George

On Wed, Nov 21, 2012 at 4:11 PM, Sinai, Nick (b) (6) wrote:

Mike Stebbins is point at OSTP for open access to research publications

George Ivanov and Johanna Shelton are at Google, in the DC office

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**From:** George Ivanov (b) (6)  
**Sent:** Tuesday, March 12, 2013 11:30 PM  
**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

Hi Mike,

We can use this bridge for tomorrow's call:

Toll-free dial-in number (U.S. and Canada):

(866) (b) (6)

Conference code:

(b)(6)

Sincerely,  
George

On Tue, Mar 12, 2013 at 10:13 PM, Stebbins, Michael J. (b) (6) wrote:  
Sure. What number shall I call you at?

Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

**From:** George Ivanov (b) (6)  
**Sent:** Tuesday, March 12, 2013 08:46 PM Eastern Standard Time  
**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

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(b) (6)

(b) (6)

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**From:** Anurag Acharya (b) (6)  
**Sent:** Wednesday, March 13, 2013 12:47 AM  
**To:** Kalil, Thomas A.; Stebbins, Michael J.  
**Subject:** Fwd: scientific journals

Dear Tom & Mike: I am the creator of Google Scholar. I am following up on Eric's message to John Holdren.

The OSTP public access initiative is a fantastic effort that will help researchers learn from and build upon their colleagues' discoveries. I applaud your vision and initiative!

Given the number of agencies involved, it will likely be a large and diverse effort. The current budget environment will likely add to the implementation challenges. I would like to do whatever I and Google Scholar can do to help.

As you might know, our goal for Google Scholar is to help researchers everywhere find & learn what their colleagues worldwide have discovered. It covers all research areas and is free to all users. For this, we have worked with publishers and libraries worldwide. We have also worked with many federal agencies & departments (NIH, Dept of Defense, Dept of Energy, Dept of Education, NASA, Smithsonian) to help make their collections of articles & technical reports discoverable by all researchers. Google Scholar is, today, the most widely used search service for scholarly articles.

As I mentioned in the note that Eric forwarded, we would be willing to implement and operate a repository for scholarly articles to help federal agencies who don't already have such a repository implement their public access plans. The repository would support the features mentioned in the directive and would be available to all participating federal agencies at no charge. I am hoping this would remove one of the possible obstacles for implementing public access for some of the agencies.

I am hoping this would be of interest. I would like to discuss this possibility with you - over phone/email or in person, whichever is convenient. I would, of course, also be happy to discuss any other way in which I or Google Scholar could help.

cheers,  
anurag

Begin forwarded message:

**From:** "Holdren, John P." (b) (6)  
**Subject:** RE: scientific journals  
**Date:** March 12, 2013 4:52:13 PM EDT  
**To:** Eric Schmidt (b) (6) Eric Lander (b) (6)  
**Cc:** "Kalil, Thomas A." (b) (6) "Stebbins, Michael J." (b) (6) "Siger, Rick"

(b) (6) "Wackler, Ted M."

(b) (6)

Eric --

Thanks for this note. The OSTP leads for the public-access initiative have been Tom Kalil, OSTP Deputy Director for Technology and Innovation, and Mike Stebbins, Assistant Director for Biotechnology in OSTP's Science Division. I'd suggest your folks connect with both of them.

(b) (6) (b) (6)

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Cheers,  
John

JOHN P. HOLDREN, PhD

Assistant to the President for Science and Technology  
and Director, Office of Science and Technology Policy  
Executive Office of the President of the United States

email (b) (6)

direct phone (b) (6)

assistant Karrie Pitze (b) (6) (b) (6)

-----Original Message-----

From: Eric Schmidt [mailto:(b) (6)]

Sent: Tuesday, March 12, 2013 4:40 PM

To: Holdren, John P.; Eric Lander

Subject: scientific journals

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We would be happy to discuss this proposal in detail with designated officials at the OSTP as well as at individual federal agencies.

---

**From:** Anurag Acharya (b) (6)  
**Sent:** Wednesday, March 13, 2013 3:29 PM  
**To:** Stebbins, Michael J.  
**Cc:** Kalil, Thomas A.  
**Subject:** Re: scientific journals

Dear Mike: thanks for the quick response!

Tomorrow and Friday, any time between 9am and 3pm Pacific would work for me. Times next week (all times Pacific):

Mon - any time between 10am and 4pm

Tues - 11:30-4pm

Wed - 9am-4pm

Thurs - noon-3pm

Fri - I am not sure about my schedule for next Friday. Do let me know if friday would be work best at your end and I will try to rearrange things.

cheers,  
anurag

On Wed, Mar 13, 2013 at 5:53 AM, Stebbins, Michael J. (b) (6) wrote:

Dear Anurag,

Thank you for reaching out. It sounds like there might be some excellent opportunities to work together. What is your availability this week and next?

Kind Regards,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Wednesday, March 13, 2013 12:47 AM  
**To:** Kalil, Thomas A.; Stebbins, Michael J.  
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**Date:** March 12, 2013 4:52:13 PM EDT

**To:** Eric Schmidt (b) (6) Eric Lander (b) (6)

**Cc:** "Kalil, Thomas A." (b) (6) "Stebbins, Michael J."

(b) (6) "Siger, Rick"

(b) (6) "Wackler, Ted M."

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(b) (6) (b) (6)

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John

JOHN P. HOLDREN, PhD

Assistant to the President for Science and Technology  
and Director, Office of Science and Technology Policy  
Executive Office of the President of the United States

email (b) (6)

direct phone (b) (6)

assistant Karrie Pitze (b) (6) (b) (6)

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**Subject:** Re: scientific journals

Dear Mike: Friday 11am Pacific/2pm Eastern sounds good. I will be a (b) (6)

cheers,  
anurag

On Wed, Mar 13, 2013 at 2:09 PM, Stebbins, Michael J. (b) (6) wrote:

Great. How about 11am pacific, 2pm Eastern this Friday? What is the best number to reach you at?

Regards,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Wednesday, March 13, 2013 3:29 PM  
**To:** Stebbins, Michael J.  
**Cc:** Kalil, Thomas A.  
**Subject:** Re: scientific journals

Dear Mike: thanks for the quick response!

Tomorrow and Friday, any time between 9am and 3pm Pacific would work for me. Times next week ( all times Pacific):

Mon - any time between 10am and 4pm

Tues - 11:30-4pm

Wed - 9am-4pm

Thurs - noon-3pm

Fri - I am not sure about my schedule for next Friday. Do let me know if friday would be work best at your end and I will try to rearrange things.

cheers,

anurag

On Wed, Mar 13, 2013 at 5:53 AM, Stebbins, Michael J. (b) (6) wrote:

Dear Anurag,

Thank you for reaching out. It sounds like there might be some excellent opportunities to work together. What is your availability this week and next?

Kind Regards,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Wednesday, March 13, 2013 12:47 AM  
**To:** Kalil, Thomas A.; Stebbins, Michael J.  
**Subject:** Fwd: scientific journals

Dear Tom & Mike: I am the creator of Google Scholar. I am following up on Eric's message to John Holdren.

The OSTP public access initiative is a fantastic effort that will help researchers learn from and build upon their colleagues' discoveries. I applaud your vision and initiative!

Given the number of agencies involved, it will likely be a large and diverse effort. The current budget environment will likely add to the implementation challenges. I would like to do whatever I and Google Scholar can do to help.

As you might know, our goal for Google Scholar is to help researchers everywhere find & learn what their colleagues worldwide have discovered. It covers all research areas and is free to all users. For this, we have worked with publishers and libraries worldwide. We have also worked with many federal agencies & departments (NIH, Dept of Defense, Dept of Energy, Dept of Education, NASA, Smithsonian) to help make

their collections of articles & technical reports discoverable by all researchers. Google Scholar is, today, the most widely used search service for scholarly articles.

As I mentioned in the note that Eric forwarded, we would be willing to implement and operate a repository for scholarly articles to help federal agencies who don't already have such a repository implement their public access plans. The repository would support the features mentioned in the directive and would be available to all participating federal agencies at no charge. I am hoping this would remove one of the possible obstacles for implementing public access for some of the agencies.

I am hoping this would be of interest. I would like to discuss this possibility with you - over phone/email or in person, whichever is convenient. I would, of course, also be happy to discuss any other way in which I or Google Scholar could help.

cheers,

anurag

Begin forwarded message:

**From:** "Holdren, John P." (b) (6)

**Subject:** RE: scientific journals

**Date:** March 12, 2013 4:52:13 PM EDT

**To:** Eric Schmidt (b) (6) Eric Lander (b) (6)

**Cc:** "Kalil, Thomas A." (b) (6) "Stebbins, Michael J."

(b) (6) "Siger, Rick"

(b) (6) "Wackler, Ted M."

(b) (6)

Eric --

Thanks for this note. The OSTP leads for the public-access initiative have been Tom Kalil, OSTP Deputy Director for Technology and Innovation, and Mike Stebbins, Assistant Director for Biotechnology in OSTP's Science Division. I'd suggest your folks connect with both of them.

(b) (6) (b) (6)

(b) (6) (b) (6)

Cheers,  
John

JOHN P. HOLDREN, PhD

Assistant to the President for Science and Technology  
and Director, Office of Science and Technology Policy  
Executive Office of the President of the United States

email (b) (6)

direct phon (b) (6)

assistant Karrie Pitze (b) (6) (b) (6)

-----Original Message-----

From: Eric Schmidt [mailto:(b) (6)]

Sent: Tuesday, March 12, 2013 4:40 PM

To: Holdren, John P.; Eric Lander

Subject: scientific journals

John and Eric, the attached is a memo from the leader of Google Scholar. Can you point me to the right person in OSTP to continue the conversations ! Thanks Eric

\*\*\*\*\*

The OSTP has recently directed federal agencies with over \$100 million in annual R&D funding to develop plans to increase public access to the results of the funded research. This is a welcome development. As the memorandum for this directive notes, scientific research supported by the federal government catalyzes innovative breakthroughs that drive much of our economy.

The directive asks agencies to include several key components in their plans for scholarly articles resulting from federally funded research:

1. Facilitate easy public search, analysis of, and access to peer -reviewed scholarly publications;
2. Ensure full public access to publications' metadata without charge upon first publication;
3. Ensure that publications and metadata are stored in an archival solution that provides for long -term preservation and access to the content without charge;
4. Identify resources within the existing agency budget to implement the plan.

The directive wisely encourages public -private collaboration to maximize the impact of the federal research investment.

At Google, we share the belief that it is crucial that all researchers are able to discover, read and build upon what their colleagues have learnt. For this, we have developed Google Scholar which works with publishers, scholarly societies, libraries, government agencies and inter-governmental agencies worldwide to provide a free search interface to all research articles available online. It is currently the most widely used search service for scholarly articles.

To help facilitate the implementation of this directive, Google would be willing to implement and operate a repository for scholarly articles that federal agencies that don't already have such a repository would be able to use to implement their public access plan. The proposed repository would support the features mentioned in the directive and would be available to all participating federal agencies at no charge. Given the current tight budgetary environment, we believe that such a collaboration would facilitate a timely implementation of the public access plans. The repository would be implemented and operated on behalf of the agencies. If at a later point, one or more agencies would like to use a different repository, they would be able to move their articles to the new repository.

We would be happy to discuss this proposal in detail with designated officials at the OSTP as well as at individual federal agencies.

---

**From:** George Ivanov (b) (6)  
**Sent:** Wednesday, March 13, 2013 5:23 PM  
**To:** Stebbins, Michael J.  
**Subject:** RE: Mutual Intro

Mike, can we reschedule for tomorrow?

On Mar 13, 2013 5:13 PM, "Stebbins, Michael J." (b) (6) wrote:

Sorry I was late. Just dialed in. Is there a direct line I can reach you at?

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Tuesday, March 12, 2013 11:30 PM  
**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

Hi Mike,

We can use this bridge for tomorrow's call:

Toll-free dial-in number (U.S. and Canada):  
(866) (b) (6)  
Conference code:  
7327891852

Sincerely,

George

On Tue, Mar 12, 2013 at 10:13 PM, Stebbins, Michael J. (b) (6) wrote:

Sure. What number shall I call you at?

Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

**From:** George Ivanov (b) (6)  
**Sent:** Tuesday, March 12, 2013 08:46 PM Eastern Standard Time  
**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)  
**Subject:** Re: Mutual Intro

Hi Mike,

Would you be available for a quick call tomorrow at 5 pm?

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On Tue, Mar 12, 2013 at 5:16 PM, Stebbins, Michael J. (b) (6) wrote:

Dear George,

We just heard from Eric Schmidt about the interest in having Google Scholar play a role in the archiving. Do you have time to talk this week?

Regards,

Mike

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 6:03 PM

**To:** Stebbins, Michael J.  
**Cc:** Sinai, Nick (b) (6)

**Subject:** Re: Mutual Intro



Thursday after 3pm would work well.

On Mon, Feb 25, 2013 at 5:58 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks! Absolutely. How are your Thursday and Friday afternoons looking?

**From:** George Ivanov [mailto:(b) (6)]  
**Sent:** Monday, February 25, 2013 5:43 PM  
**To:** Sinai, Nick  
**Cc:** (b) (6) Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

Hello Nick and Mike,

We just issued a [blog post](#) regarding Friday's memorandum. This is a great step forward and we would be interested in learning about any related federal initiatives that might be in the works. Mike, would you have time for a quick call later this week?

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On Wed, Nov 21, 2012 at 4:11 PM, Sinai, Nick (b) (6) wrote:

Mike Stebbins is point at OSTP for open access to research publications

George Ivanov and Johanna Shelton are at Google, in the DC office

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1101 New York Ave NW

Washington, DC 20005

(b) (6)

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(b) (6)

(b) (6)

---

**From:** George Ivanov (b) (6)  
**Sent:** Thursday, March 14, 2013 9:32 AM  
**To:** Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

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Would 2-2:30 or 3-3:30 work? We can use the same bridge numbers.

Sincerely,  
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Mike Stebbins is point at OSTP for open access to research publications

George Ivanov and Johanna Shelton are at Google, in the DC office

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[b(6)]

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[b(6)]

[b(6)]

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[b(6)]

[b(6)]

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

b(6) [REDACTED] b(6) [REDACTED]

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

b(6) [REDACTED] b(6) [REDACTED]

---

**From:** Eric Schmidt [b(6)]  
**Sent:** Thursday, March 14, 2013 2:01 PM  
**To:** Holdren, John P. [b(6)]  
**Subject:** this is the professor at Yale with the studies on the public mood on climate change  
he is quite good

<http://environment.yale.edu/profile/leiserowitz/>

<http://www.climatechangecommunication.org/our-team/anthony-leiserowitz>



**Subject:** Updated Invitation: George/Mike Discussion @ Fri Mar 15, 2013 2:30pm - 2:55pm  
[b(6)]  
**Location:** Call George a [b(6)]  
**Start:** Fri 3/15/2013 2:30 PM  
**End:** Fri 3/15/2013 2:55 PM  
**Show Time As:** Tentative  
**Recurrence:** (none)  
**Meeting Status:** Not yet responded  
**Organizer:** [b(6)]

This event has been changed.

[more details »](#)

### George/Mike Discussion

When

Time

Changed: Fri Mar 15, 2013 2:30pm – 2:55pm Eastern

Where

Call George a [b(6)] ([map](#))

Calendar

[b(6)]

Who

[b(6)]  
[b(6)]

[Yes - Maybe - No](#) [more options »](#)

Invitation from [Google Calendar](#)

You are receiving this courtesy email at the account [b(6)] because you are an attendee of this event.

To stop receiving future notifications for this event, decline this event. Alternatively you can sign up for a Google account at <https://www.google.com/calendar/> and control your notification settings for your entire calendar.



invite.ics

BEGIN:VCALENDAR  
PRODID:-//Google Inc//Google Calendar 70.9054//EN  
VERSION:2.0  
CALSCALE:GREGORIAN  
METHOD:REQUEST  
BEGIN:VEVENT  
DTSTART:20130322T183000Z  
DTEND:20130322T185500Z  
DTSTAMP:20130315T140914Z  
ORGANIZER;CN [b(6)]mailto:[b(6)]  
UID [b(6)]  
ATTENDEE;CUTYPE=INDIVIDUAL;ROLE=REQ-PARTICIPANT;PARTSTAT=ACCEPTED;RSVP=TRUE  
;CN=George Ivanov;X-NUM-GUESTS=0:mailto:[b(6)]  
ATTENDEE;CUTYPE=INDIVIDUAL;ROLE=REQ-PARTICIPANT;PARTSTAT=NEEDS-ACTION;RSVP=  
TRUE;CN [b(6)]X-NUM-GUESTS=0:mailto:michael\_j.\_s  
[b(6)]  
CREATED:20130315T140913Z  
DESCRIPTION:View your event at [http://www.google.com/calendar/event?action=VIEW&id=b25nNm91MDFuN2d0YXU3ZXNwZmNzbzVwYzggbw1jaGF1bF9qL19zdGVyYmluc0Bvc3RwLmVvcC5nb3Y&tok=MjMjZ2VvcmdlaXZhbM92QGdwb2dsZS5jb202ZWE5ODM0MDI4ZGQ0Mzg3Yjg3MWEyNjY0MmYzMtA4NTY5ZmMxYjJi&ctz=America/New\\_York&hl=en](http://www.google.com/calendar/event?action=VIEW&id=b25nNm91MDFuN2d0YXU3ZXNwZmNzbzVwYzggbw1jaGF1bF9qL19zdGVyYmluc0Bvc3RwLmVvcC5nb3Y&tok=MjMjZ2VvcmdlaXZhbM92QGdwb2dsZS5jb202ZWE5ODM0MDI4ZGQ0Mzg3Yjg3MWEyNjY0MmYzMtA4NTY5ZmMxYjJi&ctz=America/New_York&hl=en).  
LAST-MODIFIED:20130315T140913Z  
LOCATION:Call George at [b(6)]  
SEQUENCE:0  
STATUS:CONFIRMED  
SUMMARY:George/Mike Discussion  
TRANSP:OPAQUE  
END:VEVENT  
END:VCALENDAR

**Subject:** Updated Invitation: George/Mike Discussion @ Fri Mar 15, 2013 2:30pm - 2:55pm  
b(6)  
**Location:** Call George a b(6)  
**Start:** Fri 3/15/2013 2:30 PM  
**End:** Fri 3/15/2013 2:55 PM  
**Show Time As:** Tentative  
**Recurrence:** (none)  
**Meeting Status:** Not yet responded  
**Organizer:** b(6)

This event has been changed.

[more details »](#)

#### George/Mike Discussion

When

Time

Changed: Fri Mar 15, 2013 2:30pm – 2:55pm Eastern

Where

Call George a b(6) (map)

Calendar

b(6)

Who

b(6)

b(6)

[Yes - Maybe - No](#) [more options »](#)  
Invitation from [Google Calendar](#)

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invite.ics

BEGIN:VCALENDAR  
PRODID:-//Google Inc//Google Calendar 70.9054//EN  
VERSION:2.0  
CALSCALE:GREGORIAN  
METHOD:REQUEST  
BEGIN:VEVENT  
DTSTART:20130315T183000Z  
DTEND:20130315T185500Z  
DTSTAMP:20130315T151200Z  
ORGANIZER;CN=b(6)mailto:b(6)  
UID:ong6oe01n7gtau/es0tcs05pc8@google.com  
ATTENDEE;CUTYPE=INDIVIDUAL;ROLE=REQ-PARTICIPANT;PARTSTAT=ACCEPTED;RSVP=TRUE  
;CN=George Ivanov;X-NUM-GUESTS=0:mailto:b(6)  
ATTENDEE;CUTYPE=INDIVIDUAL;ROLE=REQ-PARTICIPANT;PARTSTAT=NEEDS-ACTION;RSVP=TRUE;CN=b(6)X-NUM-GUESTS=0:mailto:michael\_j.\_s  
b(6)  
CREATED:20130315T140913Z  
DESCRIPTION:View your event at [http://www.google.com/calendar/event?action=VIEW&eid=b25nNm9lMDFuN2d0YXU3ZXMwZmNzbzVwYzggbw1jaGF1bF9qL19zdGViymluc0Bvc3RwLmVvcC5nb3Y&tok=MjmjZ2VvcmdlaXZhbM92QGdzb2dsZS5jb202ZWE5ODM0MDI4ZGQ0Mzg3Yjg3MWEyNjY0MmYzMtA4NTY5ZmMxYjJi&ctz=America/New\\_York&hl=en](http://www.google.com/calendar/event?action=VIEW&eid=b25nNm9lMDFuN2d0YXU3ZXMwZmNzbzVwYzggbw1jaGF1bF9qL19zdGViymluc0Bvc3RwLmVvcC5nb3Y&tok=MjmjZ2VvcmdlaXZhbM92QGdzb2dsZS5jb202ZWE5ODM0MDI4ZGQ0Mzg3Yjg3MWEyNjY0MmYzMtA4NTY5ZmMxYjJi&ctz=America/New_York&hl=en).  
LAST-MODIFIED:20130315T151200Z  
LOCATION:Call George at b(6)  
SEQUENCE:1  
STATUS:CONFIRMED  
SUMMARY:George/Mike Discussion  
TRANSP:OPAQUE  
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---

**From:** George Ivanov b(6)  
**Sent:** Friday, March 15, 2013 11:13 AM  
**To:** Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

Hi Mike,

2:30 would be great. You can reach me at b(6)

Sincerely,  
George

On Fri, Mar 15, 2013 at 10:06 AM, Stebbins, Michael J. b(6) wrote:

I can also do 130 now.

**From:** George Ivanov [mailto:b(6)]  
**Sent:** Thursday, March 14, 2013 9:32 AM  
**To:** Stebbins, Michael J.  
**Subject:** Re: Mutual Intro

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Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

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**Sent:** Tuesday, March 12, 2013 08:46 PM Eastern Standard Time  
**To:** Stebbins, Michael J.  
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**Cc:** Sinai, Nick (b) (6)

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(b) (6)

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Policy Analyst | Google Inc.  
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Washington, DC 20005

(b) (6)

(b) (6)

---

**From:** Anurag Acharya (b) (6)  
**Sent:** Friday, March 15, 2013 9:05 PM  
**To:** Stebbins, Michael J.  
**Subject:** hosted datasets & compute power for satellite images

Hi Mike: I have included some links that describe the datasets as well as compute power that Google has made available for forest cover and other climate related analysis.

Announcement of the Google Earth Engine: <http://googleblog.blogspot.com/2010/12/introducing-google-earth-engine.html>

Homepage: <http://earthengine.google.org/>

Data catalog: <http://earthengine.google.org/#index>

cheers,  
anurag

---

**From:** Anurag Acharya (b) (6)  
**Sent:** Friday, March 15, 2013 9:20 PM  
**To:** Stebbins, Michael J.  
**Subject:** Authors making their books available under creative commons licenses

Hi Mike: here is the announcement of the the program Google Books has for author -specified Creative Commons licenses for their books.

<http://booksearch.blogspot.com/2009/08/bringing-power-of-creative-commons-to.html>

There isn't an easy way to get a list of books that are included. I don't think there are yet a large number of books in the program - the challenge here has always been reaching out to authors. Funding agencies are of course in a unique position for such an outreach. With such a cooperation, this could work quite well. I would be happy to follow up/discuss.

cheers,  
anurag

---

**From:** Vint Cerf (b) (6)  
**Sent:** Saturday, March 16, 2013 11:07 AM  
**To:** Holdren, John P.  
**Cc:** Carla LaFever; Niki Fenwick; Katelin Todhunter-Gerberg; Rachel Whetstone  
**Subject:** Queen Elizabeth prize for Engineering

John, thanks for taking my call.

The awards will be announced starting at 1 PM GMT in London on Monday, March 18, 2013. Princess Anne will be present and will speak briefly.

The awardees are:

Louis Pouzin - retired but formerly IRIA/INRIA  
Vint Cerf - Google  
Robert Kahn - CNRI  
Tim Berners-Lee - MIT/ W3C  
Marc Andreessen - Andreessen/Horowitz

Louis Pouzin pioneered "datagram" networks in France in the 1970s. Bob Kahn and I visited him in 1973 and adopted his flow-control scheme (sliding window) for TCP.  
Bob and I you know already as the coinventors of the TCP/IP protocols and the architecture of the Internet.  
Tim Berners-Lee released the first version of the World Wide Web in December 1991. Marc Andreessen and a colleague, Eric Bina, at the National Center for Supercomputer Applications, developed MOSAIC - the first graphical browser. It later became Netscape Communications and the IPO of Netscape triggered the dot -boom.

Queen Elizabeth was the first monarch to send an email message on March 26, 1976 thanks to the assistance of Prof. Peter Kirstein who was another party instrumental in the development of TCP/IP. He later received a CBE for his work.

The prize includes 1.2M GBP award to be shared by the awardees

Vint

---

**From:** Zinnia Orosa (b) (6)  
**Sent:** Tuesday, March 19, 2013 4:23 PM  
**To:** Mielke, Dawn M.  
**Cc:** Graubard, Vivian  
**Subject:** Re: Follow-up/ Visiting DC

Hi Dawn,

I just wanted to confirm Todd Park's call please with Matthew Stepka on:  
March 21 at 3 pm ET

Can you please have him call Matthew's cell (b) (6) instead?

Thank you,  
Zinnia

Zinnia Orosa | Executive Assistant to Matthew Stepka, VP google.org | (b) (6) (b) (6)

On Mon, Feb 25, 2013 at 9:31 AM, Zinnia Orosa (b) (6) wrote:

> Great; I've booked on Matthew's cal. I will confirm as we get closer  
> to the date.

>

> Thanks Dawn!

> Zinnia

> Zinnia Orosa | Executive Assistant to Matthew Stepka, VP google.org |

(b) (6) (b) (6)

>

>

>

> On Mon, Feb 25, 2013 at 9:14 AM, Mielke, Dawn M.

> (b) (6) wrote:

>>

>> March 21 @ 3:00 pm will work.

>>

>>

>>

>> From: Zinnia Orosa [mailto:(b) (6)]

>> Sent: Monday, February 25, 2013 12:00 PM

>> To: Mielke, Dawn M.

>> Cc: Graubard, Vivian

>>

>>

>> Subject: Re: Follow-up/ Visiting DC

>>

>>

>>

>> Hi Dawn,  
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>> We held 4 pm ET on Friday 3/1 on calendar for Todd to chat with  
>> Matthew, however, that it will no longer work as Matthew will be  
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>>  
>> Thanks!

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>>  
>> Vivian  
>>  
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>> From: Zinnia Orosa [mailto:(b) (6)]  
>> Sent: Thursday, February 21, 2013 7:42 PM  
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>> Cc: Matthew Stepka  
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>> Subject: Re: Follow-up/ Visiting DC  
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>> Hi Vivian,  
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>> Zinnia  
>>  
>> Zinnia Orosa | Executive Assistant to Matthew Stepka, VP google.org |  
> (b) (6). (b) (6)  
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>> On Thu, Feb 21, 2013 at 1:57 PM, Graubard, Vivian  
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>>  
>>  
>> Thanks,  
>>  
>> Vivian  
>>  
>>



>>  
>> From: Matthew Stepka [mailto:(b) (6)]  
>>  
>> Sent: Wednesday, February 20, 2013 11:42 PM  
>> To: Park, Todd  
>> Cc: Graubard, Vivian; Zinnia Orosa  
>>  
>> Subject: Re: Follow-up/ Visiting DC  
>>  
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>> Todd,  
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>> Thanks for getting back to me. I'm in town tomorrow and free from  
>> 4-5pm if that happens to work for you. Otherwise, let's definitely  
>> find a time to catch up over the phone soon.  
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>> Cheers,  
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>> Cheers,  
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>> Todd  
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>>  
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>> From: Matthew Stepka [mailto:(b) (6)]  
>> Sent: Tuesday, February 12, 2013 9:59 PM  
>> To: Park, Todd  
>> Subject: Follow-up/ Visiting DC  
>>  
>>  
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>> Todd,  
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>> Hope you are well. It was great to briefly chat before the holidays  
>> about how Google/ Google.org could work more strategically with your  
>> office. As we discussed, let's put some time on calendar to  
>> brainstorm with our teams about how to best work together. Also, we  
>> can share the latest with regard to our Civic Innovation initiative.  
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>> In the meantime, I am having lunch with Jonathan Greenblatt next  
>> Wednesday. If you have a free moment in the afternoon it would be  
>> great to meet in person.  
>>  
>>  
>>  
>> Cheers,  
>>  
>> Matthew  
>>  
>>  
>> --  
>> Matthew Stepka | Vice President, Disruptive Technology for Social  
>> Impact | Google  
>> 1600 Amphitheatre Parkway | Mountain View, California 94043 | +1  
>> (415)  
> (b) (6)  
>>  
>> This email may be confidential or privileged. If you received this  
>> communication by mistake, please do not forward it to anyone  
>> else, erase all copies and attachments, and let me know that it went to the wrong person.  
>> Please consider the environment before printing this e-mail.  
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**From:** Zinnia Orosa (b) (6)  
**Sent:** Tuesday, March 19, 2013 4:45 PM  
**To:** Graubard, Vivian  
**Cc:** Mielke, Dawn M.  
**Subject:** Re: Follow-up/ Visiting DC

Hi Vivian,

Sure. 4 pm ET on 3/21 will work for Matthew. Here's his cell again:

(b) (6)

Thanks,

Zinnia

Zinnia Orosa | Executive Assistant to Matthew Stepka, VP google.org (b) (6) | 1 (b) (6)

On Tue, Mar 19, 2013 at 1:41 PM, Graubard, Vivian (b) (6) wrote:

> Hi Zinnia,

>

> Dawn is out but might it be possible for Matt to speak at 4pm ET/ 1pm PT?

>

> Todd has been called into Baltimore for the day and will be on a break between 4-4:30.

>

> Thank you,

> Vivian

>

> -----Original Message-----

> From: Zinnia Orosa [mailto: (b) (6)]

> Sent: Tuesday, March 19, 2013 4:23 PM

> To: Mielke, Dawn M.

> Cc: Graubard, Vivian

> Subject: Re: Follow-up/ Visiting DC

>

> Hi Dawn,

>

> I just wanted to confirm Todd Park's call please with Matthew Stepka on:

> March 21 at 3 pm ET

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> Can you please have him call Matthew's cell (b) (6) instead?

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> Thank you,

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>

> Zinnia Orosa | Executive Assistant to Matthew Stepka, VP google.org |

(b) (6) (b) (6)

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>>> Matthew  
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>>> --  
>>> Matthew Stepka | Vice Pres ident, Disruptive Technology for Social  
>>> Impact | Google  
>>> 1600 Amphitheatre Parkway | Mountain View, California 94043 | +1

>>> (415)

>> (b) (6)

>>>

>>> This email may be confidential or privileged. If you received this

>>> communication by mistake, please do not forward it to anyone

>>> else, erase all copies and attachments, and let me know that it went to the wrong person.

>>> Please consider the environment before printing this e-mail.

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---

**From:** Anurag Acharya (b) (6)  
**Sent:** Tuesday, March 26, 2013 3:47 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Sure. Mon/Tues/Thurs/Fri morning Pacific would work for me next week. If none of these work for you, let me know some times that would.

cheers,  
anurag

On Fri, Mar 22, 2013 at 3:38 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks Anurag,

Do you have time to talk again on the week of April 1<sup>st</sup>?

Best,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 15, 2013 9:47 PM  
**To:** Stebbins, Michael J.  
**Subject:** repository for federally funded research articles

Hi Mike: congratulations on the new OSTP policy on increasing public access to research articles funded by federal agencies!

One of the key issues for the success of the policy will be whether these articles are included in a publicly available repository. In addition to ensuring a consistent access mechanism for all users, inclusion in a repository would also help ensure archival access and long-term stewardship.

As the lead for Google Scholar, I have worked with publishers and libraries worldwide. I have also worked with most federal agencies and depts for indexing their existing collections of research articles. Based on my experience, I would like to share recommendations/proposals regarding repositories for federally funded research articles.

I am hoping this is of interest. I would be happy to visit or join a conversation.

cheers,

anurag

---

**From:** Vint Cerf (b) (6)  
**Sent:** Wednesday, March 27, 2013 8:30 AM  
**To:** Holdren, John P.  
**Subject:** Fwd: A suggestion for NSF director

You may recall Bob Sproull as a major force in computer graphics, a key player at Sun Microsystems (and Sutherland & Sproull) and an active NAE member. His recommendation carries weight although I rather expect the WH is pretty far along with its potential choices.

vint

----- Forwarded message -----

**From:** Bob Sproull (b) (6)  
**Date:** Wed, Mar 27, 2013 at 8:04 AM  
**Subject:** A suggestion for NSF director  
**To:** Vint Cerf (b) (6)

I would urge you to consider Cherry Murray, currently dean of the School of Engineering and Applied Sciences at Harvard. I have no idea what procedure to follow to insert a candidate into the process, but I assumed you would know. Would you be willing to either insert her name or let me know how to do it?

Tnx  
Bob

---

**From:** Vint Cerf (b) (6)  
**Sent:** Wednesday, March 27, 2013 9:50 AM  
**To:** Holdren, John P.  
**Subject:** Re: A suggestion for NSF director

i will do so - and thanks, as always, for your stunningly swift responses!

vint

On Wed, Mar 27, 2013 at 9:29 AM, Holdren, John P. (b) (6) wrote:

Vint – You can assure Bob Sproull that Cherry Murray has been on the short list of candidates from the day I learned from Subra that he was stepping down. (That does not mean, at this point, that she is willing to be considered.) Cheers, John

JOHN P. HOLDREN, PhD

Assistant to the President for Science and Technology

and Director, Office of Science and Technology Policy

Executive Office of the President of the United States

ema (b) (6)

direct phon (b) (6)

assistant Karrie Pitze (b) (6) (b) (6)

**From:** Vint Cerf [mailto: (b) (6)]  
**Sent:** Wednesday, March 27, 2013 8:30 AM  
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Tnx  
Bob

---

**From:** Jose Oyola-Sepulveda (b) (6)  
**Sent:** Wednesday, March 27, 2013 6:18 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Solve for X Invoice

Hi Cristin,

I mailed it in for deposit into our dropbox in CA last week, please let me know if it doesn't hit your bank account by the end of next week.

Thanks!

-Jose

Jose Ramon Oyola-Sepulveda	Ethics and Compliance	(b) (6)	(b) (6)
----------------------------	-----------------------	---------	---------



On Thu, Mar 14, 2013 at 1:07 PM, Dorgelo, Cristin (b) (6) wrote:

Hi Jose:

Can you confirm receipt of payment?

I've mailed a check to the address below a number of weeks ago and wanted to confirm receipt, as I noticed the check has not yet been processed.

Thanks,

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Executive Office of the President

(b) (6)

(b) (6)

**From:** Jose Oyola-Sepulveda [mailto:(b) (6)]  
**Sent:** Wednesday, February 06, 2013 3:30 PM  
**To:** Dorgelo, Cristin  
**Subject:** Solve for X Invoice

Hi Cristin,  
Thank you for participating in Solve for X, we hope you enjoy it!  
Per relevant gift rules we are providing you with the invoice below covering food+beverages+swag for this event. If you require an invoice for anything else please let me know.  
Regards,  
-Jose  
Jose Ramon Oyola-Sepulveda | Ethics and Compliance (b) (6) (b) (6)

## INVOICE

**BILLED TO:** Cristin Dorgelo  
White House

InvoiceNumber CAT182

InvoiceDate 2/6/13

Terms Net 30

**SEND PAYMENT TO:** Jose Ramon Oyola-Sepulveda  
1101 New York Avenue, NW  
Second Floor  
Washington, D.C. 20005

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1	Food + Beverages	\$ 550.00	\$ 550.00
1	Patagonia Jacket	\$ 200.00	\$ 200.00

Note: Please make checks payable to Google Inc.

Total \$750

Questions concerning this invoice? Call 2 (b) (6)



---

**From:** Astro Teller (b) (6)  
**Sent:** Thursday, March 28, 2013 8:52 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Brains

I will ask around, Cristin. We have some people but I don't know how heads down they are or aren't. Give me a week or so...

: )

A

On Thu, Mar 28, 2013 at 5:16 PM, Dorgelo, Cristin (b) (6) wrote:

Hey Astro:

Quick question: You guys got any great folks working on neuroscience + nanoscience? If so, can you connect me?

Hope all is well with the moonshot team,

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

(b) (6)

(b) (6)

--

- Astro

---

**From:** Anurag Acharya (b) (6)  
**Sent:** Friday, March 29, 2013 3:52 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: thanks for the quick response! Sorry to interrupt you on your vacation :(

Tuesday 1pm Eastern/10am Pacific would work for me. If you would prefer to call, I will be a (b) (6) If it would be easier for me to call, let me know the number to call.

anurag

On Fri, Mar 29, 2013 at 12:18 PM, Stebbins, Michael J. (b) (6) wrote:  
Sorry. I am on vacation. How about Tuesday? I am open from 1 -3.

---

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 29, 2013 02:46 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: just checking in to see if we are on for talking some time next week.

cheers,  
anurag

On Tue, Mar 26, 2013 at 12:46 PM, Anurag Acharya (b) (6) wrote:  
Sure. Mon/Tues/Thurs/Fri morning Pacific would work for me next week. If none of these work for you, let me know some times that would.

cheers,  
anurag

On Fri, Mar 22, 2013 at 3:38 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks Anurag,

Do you have time to talk again on the week of April 1<sup>st</sup>?

Best,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 15, 2013 9:47 PM  
**To:** Stebbins, Michael J.  
**Subject:** repository for federally funded research articles

Hi Mike: congratulations on the new OSTP policy on increasing public access to research articles funded by federal agencies!

One of the key issues for the success of the policy will be whether these articles are included in a publicly available repository. In addition to ensuring a consistent access mechanism for all users, inclusion in a repository would also help ensure archival access and long -term stewardship.

As the lead for Google Scholar, I have worked with publishers and libraries worldwide. I have also worked with most federal agencies and depts for indexing their existing collections of research articles. Based on my experience, I would like to share recommendations/proposals regarding repositories for federally funded research articles.

I am hoping this is of interest. I would be happy to visit or join a conversation.

cheers,

anurag

---

**From:** Astro Teller (b) (6)  
**Sent:** Friday, March 29, 2013 6:10 PM  
**To:** Dorgelo, Cristin  
**Subject:** Re: Invite: Tuesday 4/2 Event with President Obama

Thanks, Cristin. I can't make this one but I'm happy to look again at another time to do something like this.

:)

A

On Fri, Mar 29, 2013 at 8:21 AM, Dorgelo, Cristin (b) (6) wrote:



We are pleased to invite you to join President Obama for a White House event on the morning of **Tuesday, April 2<sup>nd</sup>** to discuss the importance of continuing to invest in research and science.

Please RSVP to Robbie Barbero (b) (6) as soon as possible and no later than **tomorrow, noon EDT, Saturday, March 30<sup>th</sup>** if you would like to attend.

Upon receipt of your RSVP, we will follow up with additional logistical information and specific arrival details.

To facilitate expedited processing of your RSVP, please include the attached spreadsheet with your security information with your response. This information will be used for a background check.

Please note, **this invitation is non-transferable.**

All the best,

Cristin

**Cristin Dorgelo**

Assistant Director for Grand Challenges

Office of Science and Technology Policy

Executive Office of the President

--

- Astro

---

**From:** Vint Cerf (b) (6)  
**Sent:** Monday, April 01, 2013 9:35 AM  
**To:** Alec Ross; Ari Schwartz; bruce andrews; francisco sanchez; Jane Lute; Larry Strickling; mark weatherford; Sapiro, Miriam; pat gallagher; Philip L Verveer; Rich O'Lear; Kalil, Thomas A.  
**Subject:** Fwd: EG Update

----- Forwarded message -----

**From:** Bremmer, Ian (b) (6)  
**Date:** Mon, Apr 1, 2013 at 8:17 AM  
**Subject:** EG Update  
**To:** Vinton Cerf (b) (6)

dear vint,

For today, it's worth starting from a preposition. Considering the looming challenges to the global order and accordingly assessing global political risk, by far the largest is --broadly defined--managing a troubled yet uninteresting US-China relationship. Then, taking a step down in terms of priority, the explosive (and growing) ennui in the Middle East and the withering malaise that is the Eurozone. Everything else -- South Asia tensions, the competition for resources --and influence--in Africa, Russia's decline and the disposition of the "near abroad", etc etc...we might as well forget about entirely.

The North Korean leadership is doing everything it can to annoy me this week. It's a real story...but ultimately in the context of the US-China relationship...where well short of war devastating war on the peninsula --which remains a threat, but a comparatively small one--it has the potential to make me write further updates about them. I thought about just writing up the back and forth on Kim Jong Un's latest ripostes (of which there have been suitably many). Instead, though, I think it makes more sense to spend this week's update writing more thoroughly on the biggest challenges to US-China, of which North Korea has quickly risen towards (but not quite to) the top. As well as a (thankfully larger) number that barely merit writing about at all..

Then some assorted bits and pieces from Honduras, Andorra, and Swaziland.

## US - China

To be sure, there is real interdependence and mutual interests between the United States and China--the world's two largest economies benefit far more from each other's growth than a relationship of conflict. But that interdependence has remained largely constant over the past year (with a slight diminution--less active concern from both given economic rebound, and more diversification of economic interests from Beijing)...while there's no question that the last few months have brought greater structural tension to relations between the world's two largest economies. It's been less clear where those primary tensions are, and the implications accordingly. Given all sorts of headlines around issues that are directly relevant, and some others that are distractions, it's worth going through the key issues. There are four areas of critical tension between the two countries; I'll go through them in descending order. And then a wide range of other issues that don't actually matter much...I'll mention those afterwards.

1) **(Mutual) Cyberattacks.** At least as problematic as the US government now publicly considering cyberattacks from China the single greatest threat to American national security...is the fact that the Chinese government doesn't proactively raise the issue at all. Or, to put it differently, it's the broad asymmetry of the issue that makes addressing it so nettlesome.

To be clear, it's not a one way China versus the United States challenge. The United States government has the most world's most effective state versus state cybersecurity capacity--it's well (insiders say a decade) ahead technologically; and devotes far more research and resource to cyber-espionage against Chinese government, defense, and intelligence networks than vice versa. In short, in state versus state cyber-warfare, the United States has China down for the proverbial count. (#winning)

But the structure of the US government and the nature of the American political and economic system means that Washington doesn't engage in cyberattacks on behalf of KFC (#losing). While for the Chinese government, state and industry are critically linked, share strategic goals, and engage in jointly resourced and supported (if not always coordinated) cyberattacks against private sector assets in advanced industrial economies, for economic gain. From the American perspective, that's illegitimate--asymmetrical warfare is most always considered out of bounds by the better resourced side, no matter what the conflict. For China, it's a natural extension



of interstate promotion of national interest, and no different from American efforts. We agree to disagree.

Given that cyberattacks are perceived to be rapidly becoming a critical vulnerability for the US economy, the United States has been working to create an effective policy response. So far, with zero success. Last year, the Americans threatened ill-defined--and not particularly credible--retaliatory measures against further attacks (approving "kinetic" --read, military--responses against cyberattacks in a new Pentagon strategy). The latest, reworked strategy is to start "naming and shaming" Chinese organizations involved in cyberattacks against American economic assets, a policy that is meant to eventually involve the department of justice to open cases --and present evidence--in the clearest, and most potentially damaging, cases. These will, in turn, undoubtedly be seen as wholly illegitimate by Beijing...which could hardly be expected to send government representatives to defend themselves in "politicized" cases claiming attacks that the Chinese government has already, repeatedly assured Washington they consider illegal and under no circumstances engage in. Which means the cases go nowhere while the evidence piles up...leading the White House or, failing that, Congress to start pursuing sanctions against Chinese organizations named in the cases.

As is the case with the world's most troubled geopolitical environments, it's extremely difficult to set down credible "red lines" for unacceptable behavior when those lines are already being repeatedly broken with impunity. That's compounded when both sides see their own behavior as both legitimate and necessary for the basic pursuit of their government's well being--it's hard to imagine the US government publicly admitting to, never mind giving up the right to, cyberattacks against Chinese military and intelligence agencies. And from Beijing's perspective, that's probably well short of the minimum acceptable quid pro quo for renouncing cyberattacks against western multinationals --which, given the level of autonomy of some state owned enterprises (exponentially greater than, say, the American National Security Agency)--it's not clear the Chinese government could effectively enact even in the unlikely event that they were willing to.

2) **North Korea.** Even for North Korea, they've been nutty of late. Kim Jong Un severed the last remaining hotline between his country and South Korea; announced a state of war with the South and the United States; threatened to close the joint industrial complex between North and South at Kaesong, North Korea; and ordered his country's missile units to prepare for launch against targets in the United States

(including, finally, Austin, Texas. So much for SXSW, Stratfor, and Whole Foods).

The American responses to Pyongyang have been calm, but nonetheless resolute--reiterating stated US policy of "rolling back" North Korea's existing nuclear weapons program, ramping up further sanctions at the United Nations Security Council, proceeding with joint military exercises with the South Korean defense forces that included B2 nuclear-capable bombers flying over the Korean peninsula, and sending Dennis Rodman's ear to Pyongyang. In short, to the extent that North Korea's efforts at bluster were to force the Americans and/or others to the negotiating table, that gambit failed about as decisively as could be imagined.

There's real danger here. Not because North Korea is preparing to actually launch missiles at the United States (good luck), or even Seoul (which would precipitate immediate destruction of the North Korean regime). But because Kim Jong Un is boxing himself into a corner--where either he has to find a way to concede the failure of his policies and take a softer stance (not a problem for public propaganda...but surely dangerous from the perspective of maintaining the support of the regime's military elites) or pushing forward with belligerence that truly destabilizes the status quo--attacking a South Korean or American military asset in the region or shelling South Korean territory.

Leaving aside Rodman, neither the United States nor China have any interest in ramping up provocations from the North Korean regime. At this point, it's become reasonably clear even to comparative hawks inside the beltway that the Chinese government has lost some of the influence it had historically enjoyed over Pyongyang...and views the Kim government as a nuisance, not a geopolitical opportunity to be exploited. But tensions with North Korea are inflaming to the point that they're eliciting a hard line reaction from Seoul that complicates what has been a warm and increasingly integrated mutual economic strategy between South Korea and China. Chinese leaders believe the United States seeks to take advantage of the situation; using tensions with North Korea as a wedge between Seoul and Beijing. A sudden true crisis over North Korea--either from a North Korean military attack or from signs of true regime instability (and the refugee, economic, and security implications that would follow) would feed these fears to a much greater extent; putting both the United States and China on highest level military alert...without either direct engagement or coordination between the two sides. Both would mistrust actions from the other as undermining their own national interests, leading to a war footing by proxy. That's the biggest meaningful risk that

comes from an unstable North Korean regime.

**3) Market access (for Western firms).** Analogous to the cyber issue but much more tightly concerned to the contradictions between state capitalism and the free market economy, is the receptiveness of the Chinese government to the success of western multinationals in areas where Chinese competitors (state-owned or private but politically connected) are considered relevant. That's a practice that three years ago was largely limited to more strategic sectors for the Chinese economy, but as Chinese firms have grown stronger in a wider range of industries, the Chinese government has steadily stepped up its willingness to promote domestic Chinese companies and brands at the expense of western multinationals.

That's most recently included campaigns against western firms with dominant positions in China --including Au Bon Pain, Matchbox Cars, and Pinterest. On the one hand, that means they're less likely to succeed--vigorous campaigns by independent Chinese netizens to support popular products can provide support for quality brands in China, and diminish the impact of state pressure. But the broader issue is that the Chinese government is increasingly aligning itself against the interests of a wide range of western multinationals investing in China. To the extent that brands succeed by further antagonizing the Chinese government is a practice likely to create greater tensions between the United States and Chinese governments, at least in the near term.

In short, the commitment of the new Xi Jinping government in support of state owned enterprises and privately owned national champions, which rely not just on inexpensive capital but, increasingly importantly, a Chinese government sponsored regulatory system, media, and judiciary is going to create greater tensions between Beijing and US -based multinationals with significant access and influence to the American political leadership. That shift is eroding perceptions of a positive investment environment between the two countries, to one that is decidedly more zero-sum. As that continues to develop, calls for punitive legislative measures will undoubtedly grow.

**4) China-Japan relations.** As I've written following my recent Asia trip, China-Japan tensions are considerably broader than the mutually exclusive claims on the Senkakus/Diaoyu islands. The shift in power between the two countries has made China more willing to take a more assertive position on what it considers a new geopolitical status quo; Beijing has also been willing to use tensions with Japan as a rallying point for patriotism in domestic politics.

Japan, meanwhile, is experiencing significantly greater anti-China nationalism of its own. The potential for near-term resolution between the two countries is low. China sees little economic benefit in trying to reconcile the conflict; Japanese corporations are doing their best to plan to hedge their longer term exposures away from a Chinese market that, long term, they increasingly understand will be a more difficult operating environment.

That, combined with America's engagement in close military relations with Japan and stronger economic coordination (including Japan's recently announced engagement in transpacific partnership negotiations) and a complete absence of mutual trust only serve to enhance the perception in Beijing that the United States is engaged in a "containment" strategy in Asia, not an effort to engage a more powerful China on terms of equal partnership.

\* \* \*

At the same time, there are a host of other issues of potential conflict that don't really matter. For example, **Taiwan**--every once in a while we'll see reports from Washington institutes talking about the war footing around Taiwan; how China is building up their navy and the United States won't be able to defend its ally...and there's going to be a war. But those concerns really date from Emeritus Professors that no longer come to work. In reality, the balance of power between Beijing and Taipei has already shifted radically, and mainland China has already effectively "won." The Taiwanese economy is well integrated and so, increasingly, is its population. Beijing feels comfortable about it--it rarely comes up as more than a formulaic talking point in bilateral discussions between the US and China.

**The South China Sea** issue raises more serious and immediate security concerns between the United States and China, with countries like Vietnam and the Philippines very skittish about China's repeated incursions into what they consider their territory...and actively looking for American support to bolster their own claims. But unlike with Japan, the Chinese government feels more confident in the region--the bilateral power imbalances are far more in China's favor; Beijing has a much better handle on what motivates the governments--and their ability to influence them accordingly--through powerful Chinese business constituencies in the Southeast Asian nations; and China is considerably less likely to overplay their hand accordingly. In short, I don't see a fight coming here.

I mentioned last week why I didn't see a broader geopolitical

fight between the West and **Russia-China**. China doesn't really have geopolitical interests; they have geoeco nomic ones...which, to be sure, eventually become geopolitical when their investments end up in particularly unstable places. But that's a China problem, and one the US will be increasingly uninterested in helping out with...not a factor causing greater tensions in the US-China relationship.

**Currency**, the area where the US and China were jostling each other the most spiritedly at the beginning of the first Obama administration, has become close to a non-issue. China's incremental moves in revaluing their renminbi proved sufficient for most hawks to sideline the issue; the United States has engaged in a couple of years of quantitative easing with at best marginal grumbling from Beijing; Japan is now the largest holder of US treasuries; and the new US treasury secretary doesn't have much of a China brief. In short, not much to see here.

And as for the most traditional complaints --**human rights, Tibet, the Dalai Lama**. Meh. In a G-Zero world, the United States has literally hundreds of policy issues that are further up the queue. They'll make their way into speaking points, but nobody serious on either side is preparing to go to the mat on matters of true principal.

\* \* \*

I've changed my mind on Honduras. Rather, one more China point that deserves attention, though it's not a US-China tension...**Hong Kong**. Which is steadily becoming more a liability for the mainland Chinese government than an asset. Hong Kong is supposed to ultimately receive universal suffrage--hence the notion of one country, two systems. But while Beijing has long said they'll move in that direction, it's increasingly the case that Hong Kong's autonomy is seen as problematic by Beijing. That became more clear last week, when the Chairman of China's National People's Congress Law Committee told Hong Kong political officials that any Chief Executive candidate must "love the country and love Hong Kong." In other words, those who don't like the Communist Party can go scratch. That's hardly the democracy the Hong Kong residents have long been waiting for. Hong Kong's Chinese have been increasingly vocal about their political rights--with hundreds of thousands demonstrating last July, on the 15th anniversary of the city's return to Chinese government. Add a few other ingredients for broader instability--increasing economic distress, lower wages, higher home prices, and economic disparities--and I tend to think Hong Kong is an issue to watch more closely over the coming year.

Ditto Andorra. Instead to North Africa, where **Algeria** is creating some more worries of late. This month they've seen a rash of spontaneous protests, with unemployed youth coming from southern Algeria...and it's triggered a panicked reaction from government authorities, who for the first time have started talking about the prospects of secession in the south. There's a real chance of radicalization here, given chronic underdevelopment of the region and a lack of political outlets for local youth to vent their frustration. With little economic capacity for the Algerian government to effectively address their concerns, the stated Algerian government concerns sound like preparations for a crackdown.

And nothing on Swaziland; as nobody ever asks about them. Instead, one surprise from Europe: **Slovakia**, where the orders for forced seizure of property due to unpaid debts in the beginning of 2012 exceeded the total volume of those order for the past decade. That's unprecedented in terms of forced bankruptcies...low income groups using pay-day loans and without the ability to repay them has been exacerbated dramatically by high unemployment. Better news on this front, though, the Slovakian government is suitably alarmed by the developments--holding a special meeting to address capacity of the courts to deal with the issue. There's reasonably strong resilience in the system--strong government intervention should go a long way to help maintain stability, despite an already tense social balance in the country.

\* \* \*

I'm writing from New York this week, where I'm hoping spring has (finally) sprung. Fingers duly crossed...and a Happy April Fool's too you! The unfiddled with, uncaptialized update...is coming shortly.

Yours Very Truly,  
Ian

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**From:** Charlie Hale (b) (6)  
**Sent:** Monday, April 01, 2013 2:50 PM  
**To:** Edelman, R. David  
**Subject:** head of self-driving car in DC April 10th

Hi David,

I just wanted to let you know that the head of the self-driving car project (Chris Urmson) is going to be in DC for a meeting on April 10th. If your schedule allows for it, I'm sure he'd love to either meet with you or brief your interagency committee if that would be of interest.

Take care,  
Charlie

On Fri, Feb 1, 2013 at 9:34 AM, Edelman, R. David (b) (6) wrote:  
Here in the lobby (bldg 43, correct?)

---

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Thursday, January 31, 2013 06:08 PM

**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Great. I'm at 1875 Charleston Ave and the lobby is in the back of the building where the parking lot is located. We can grab coffee, walk across campus and meet the rest of the team at 10.

On Thu, Jan 31, 2013 at 3:00 PM, Edelman, R. David (b) (6) wrote:  
Sure, why not? Let's do 9:30. Give me the address and building number, and I'll see you in the lobby.

-----Original Message-----

**From:** Charlie Hale (b) (6)  
**Sent:** Thursday, January 31, 2013 01:22 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Great! If you'd like to come at 9:15-9:30 then you and I can grab coffee or I can show you around campus a bit, and then we can head to the building where we'll be meeting with the team.

Sound good?

On Wed, Jan 30, 2013 at 10:47 AM, Edelman, R. David (b) (6) wrote:

Charlie,

That's fantastic, thank you. Actually, yes, I would – if I'm going to be writing policy on the technology, makes sense to see it in action. 10 and 10:30am is fine, and could even do a bit earlier (9:30 or 9:45) if there is appetite to go a bit more in-depth, as I certainly would be interested.

Let me know the coordinates and who might be joining, and looking forward to it.

Cheers,

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Wednesday, January 30, 2013 11:15 AM

**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Hi David,

I heard back from a few of the team leads and we'd love to have you down on Friday morning. Would you be interested in getting a demo in the car? We'd be happy to take you out for a ride if you have time.

Also what time works best for you? I was thinking we could meet with some folks at 10:00, talk for about 30 minutes and then get a demo around 10:30. What do you think?

Looking forward to it!  
-Charlie

On Tue, Jan 29, 2013 at 4:53 PM, Edelman, R. David (b) (6) wrote:

Fantastic, thanks, Charlie!



**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 7:52 PM

**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sure! Mountain View on Friday morning works well. I emailed the team so I'll get back to you as soon as I have some times nailed down.

On Tue, Jan 29, 2013 at 4:18 PM, E delman, R. David (b) (6) wrote:

I'll actually already be down south that morning/afternoon, so MV is probably best, no?

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Tuesday, January 29, 2013 7:17 PM  
**To:** Edelman, R. David  
**Subject:** Re: Visit for Thurs/Fri

Sounds great!

Would you like to meet in the Google SF office and we can video conference with anyone from the chauffeur team, or meet in Mountain View?

-Charlie

On Tue, Jan 29, 2013 at 4:09 PM, Edelman, R. David (b) (6) wrote:

Thanks, Sarah!

Charlie, great to chat earlier. One note per our prior discussion: it's looking like morning/pre-lunch on Friday is preferable to afternoon, if possible.

Cheers,

-David

R. David Edelman

ph: (202) (b) (6) | bb: (202) (b) (6) (b) (6)

Hi David,

Best,

Charlie Hale | Google Public Policy (b) (6)

Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

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**From:** Anurag Acharya (b) (6)  
**Sent:** Tuesday, April 02, 2013 6:40 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Sounds good. I will be a (b) (6)

anurag

On Tue, Apr 2, 2013 at 3:21 PM, Stebbins, Michael J. (b) (6) wrote:

How about tomorrow at 530pm Eastern?

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Tuesday, April 02, 2013 2:17 PM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: looks like we missed each other. Should we reschedule? Any time after 10am Pacific/1pm Eastern would work for me this week. Next week, 10am -2pm Pacific would work Mon->Thurs and 10-1pm Friday.

cheers,

anurag

On Fri, Mar 29, 2013 at 12:51 PM, Anurag Acharya (b) (6) wrote:

Hi Mike: thanks for the quick response! Sorry to interrupt you on your vacation :(

Tuesday 1pm Eastern/10am Pacific would work for me. If you would prefer to call, I will be at (b) (6) If it would be easier for me to call, let me know the number to call.

anurag

On Fri, Mar 29, 2013 at 12:18 PM, Stebbins, Michael J. (b) (6) wrote:

Sorry. I am on vacation. How about Tuesday? I am open from 1 -3.

---

**From:** Anurag Acharya [mailto:(b) (6)]

**Sent:** Friday, March 29, 2013 02:46 PM

**To:** Stebbins, Michael J.

**Subject:** Re: repository for federally funded research articles

Hi Mike: just checking in to see if we are on for talking some time next week.

cheers,

anurag

On Tue, Mar 26, 2013 at 12:46 PM, Anurag Acharya (b) (6) wrote:

Sure. Mon/Tues/Thurs/Fri morning Pacific would work for me next week. If none of these work for you, let me know some times that would.

cheers,

anurag

On Fri, Mar 22, 2013 at 3:38 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks Anurag,

Do you have time to talk again on the week of April 1<sup>st</sup>?

Best,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 15, 2013 9:47 PM  
**To:** Stebbins, Michael J.  
**Subject:** repository for federally funded research articles

Hi Mike: congratulations on the new OSTP policy on increasing public access to research articles funded by federal agencies!

One of the key issues for the success of the policy will be whether these articles are included in a publicly available repository. In addition to ensuring a consistent access mechanism for all users, inclusion in a repository would also help ensure archival access and long-term stewardship.

As the lead for Google Scholar, I have worked with publishers and libraries worldwide. I have also worked with most federal agencies and depts for indexing their existing collections of research articles. Based on my experience, I would like to share recommendations/proposals regarding repositories for federally funded research articles.

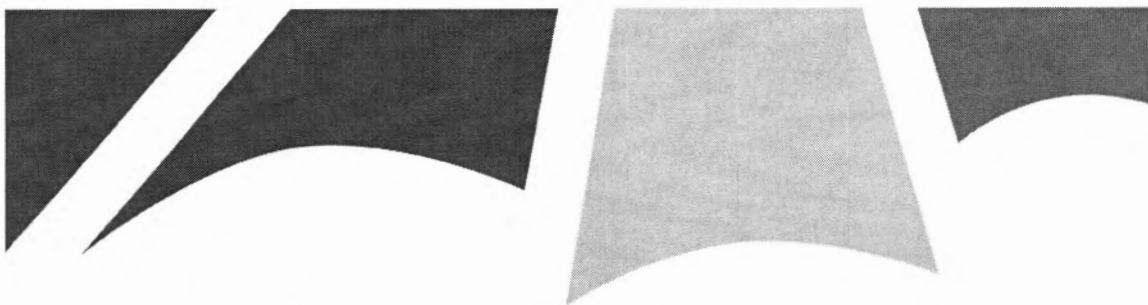
I am hoping this is of interest. I would be happy to visit or join a conversation.

cheers,

anurag

---

**From:** Big Tent D.C. (b) (6)  
**Sent:** Wednesday, April 03, 2013 10:16 AM  
**To:** Edelman, R. David  
**Subject:** Google & Bloomberg invite you to Big Tent D.C.



## Can Free Speech Survive in the Digital Age?

Join leaders of the media, business and the arts to discuss the future of free expression on the eve of the annual celebration of America's press. At a time when too many governments deny their citizens access to voices of dissent and opposition, we'll ask if the Internet is reaching its promise of empowering people here at home and around the world. Topics will include how best to promote free speech while protecting cultural sensitivities, national security and the right to information.

[Please RSVP here](#)

**Friday, April 26, 2013**

Registration: 1:00 PM  
Big Tent: 1:30 – 6:00 PM  
Reception: 6:00 – 9:00 PM

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### **The W Hotel**

515 15th Street  
(Entrance on F Street)  
Washington, D.C. 20001

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Please email any questions to  
(b) (6)

Full agenda to follow



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You received the "Big Tent D.C." invitation because you have been involved in the Google community or attended Google events in the past. If you no longer wish to receive information regarding "Big Tent D.C.", please enter your email address [here](#).



---

**From:** Jacqueline Fuller (b) (6)  
**Sent:** Thursday, April 04, 2013 10:34 AM  
**To:** Kalil, Thomas A.; Abigail Sassoon  
**Cc:** Greenblatt, Jonathan; Garg, Kumar; FN-WHO-Innovation  
**Subject:** Re: checking in on STEM Corps

Abby can find us time to connect. Should we include CNCS?

On Wed, Apr 3, 2013 at 5:24 AM, Kalil, Thomas A. (b) (6) wrote:  
+ Kumar. NSF is on board. I'm on spring break - but Kumar can participate in any calls you set up.

---

**From:** Greenblatt, Jonathan  
**Sent:** Wednesday, April 03, 2013 08:14 AM  
**To:** (b) (6); (b) (6)  
**Cc:** Kalil, Thomas A.; FN-WHO-Innovation  
**Subject:** checking in on STEM Corps

Jacqueline,

Hi there. I trust all is well. Its been a few weeks since we met in NYC, but wondering if you might have time either today or tomorrow for a quick check-in call on STEM Corps?

We have been working with CNCS on innovative models for funding this effort consistent with the vision/parameters that you shared in New York. It would be good to spend a few minutes talking through the basic framework for your feedback and discuss next steps. Additionally, we have a fast approaching and very exciting opportunity to give this effort a big lift and would like to work with you/your team to capitalize.

Is there a time that works for you to connect with us?

best,

Jonathan

--

Jacquelline Fuller	Director Google Giving	(b) (6)		(b) (6)
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Google Giving now has a Google+ page. Add us to your circles for the latest information on giving!

If you received this communication by mistake, please don't forward it to anyone else (it may contain confidential or privileged information), please erase all copies of it, including all attachments, and please let the sender know it went to the wrong person. Thanks.

---

**From:** Abigail Sassoon (b) (6)  
**Sent:** Thursday, April 04, 2013 10:58 AM  
**To:** Greenblatt, Jonathan  
**Cc:** Kalil, Thomas A.; Garg, Kumar; FN-WHO-Innovation; John Kelly (b) (6) Levy, Noemie  
**Subject:** Re: checking in on STEM Corps

Hello Jonathan,

I hope I find you well! Jacqueline is available from 9 -10am, 11:30am-1:30pm, and 2-4pm PT tomorrow. Does a time in any of those windows work for you? Thank you!

Best,  
Abby

On Thu, Apr 4, 2013 at 7:41 AM, Greenblatt, Jonathan (b) (6) wrote:

Jacqueline,

Hi there. Thanks for your response. Yes, lets loop in CNCs. I am copying John Kelly on this note.

Would love to do it this week if possible. Can we carve out a few mins tomorrow? Please let me know your availability and Kristin on my team can help to set up a dial -in as well as coordinate with Kumar and John.

Best,

Jonathan

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Jonathan

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Jacquelline Fuller | Director Google Giving | (b) (6) | (b) (6)

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--

Abigail Sassoon | Assistant to Eric Chu, Patrick Copeland, Jacquelline Fuller, and Anita Yuen | (b) (6)

---

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**Cc:** Abigail Sassoon; Kalil, Thomas A.; Garg, Kumar; FN-WHO-Innovation; John Kelly  
(b) (6) Levy, Noemie  
**Subject:** Re: checking in on STEM Corps

I can make time. Allie will work her magic with Kristin.

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**From:** Jacqueline Fuller [mailto:(b) (6)]  
**Sent:** Thursday, April 04, 2013 10:34 AM  
**To:** Kalil, Thomas A.; Abigail Sassoon  
**Cc:** Greenblatt, Jonathan; Garg, Kumar; FN -WHO-Innovation  
**Subject:** Re: checking in on STEM Corps

Abby can find us time to connect. Should we include CNCS?

On Wed, Apr 3, 2013 at 5:24 AM, Kalil, Thomas A. (b) (6) wrote:

+ Kumar. NSF is on board. I'm on spring break - but Kumar can participate in any calls you set up.

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**From:** Greenblatt, Jonathan  
**Sent:** Wednesday, April 03, 2013 08:14 AM  
**To:** (b) (6); (b) (6)  
**Cc:** Kalil, Thomas A.; FN-WHO-Innovation  
**Subject:** checking in on STEM Corps

Jacquelline,

Hi there. I trust all is well. Its been a few weeks since we met in NYC, but wondering if you might have time either today or tomorrow for a quick check -in call on STEM Corps?

We have been working with CNCS on innovative models for funding this effort consistent with the vision/parameters that you shared in New York. It would be good to spend a few minutes talking through the basic framework for your feedback and discuss next steps. Additionally, we have a fast approaching and very exciting opportunity to give this effort a big lift a nd would like to work with you/your team to capitalize.

Is there a time that works for you to connect with us?

best,

Jonathan

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Jacquelline Fuller	Director Google Giving	(b) (6)		(b) (6)
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Google Giving now has a Google+ page. Add us to your circles for the latest information on giving!

If you received this communication by mistake, please don't forward it to anyone else (it may contain confidential or privileged information), please erase all copies of it, including all attachments, and please let the sender know it went to the wrong person. Thanks.

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Jacquelline Fuller	Director Google Giving	(b) (6)		(b) (6)
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Google Giving now has a Google+ page. Add us to your circles for the latest information on giving!

If you received this communication by mistake, please don't forward it to anyone else (it may contain confidential or privileged information), please erase all copies of it, including all attachments, and please let the sender know it went to the wrong person. Thanks.



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**From:** Anurag Acharya (b) (6)  
**Sent:** Thursday, April 04, 2013 12:30 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

On Thu, Apr 4, 2013 at 9:13 AM, Stebbins, Michael J. (b) (6) wrote:

Fantastic. I will discuss the dates with the group today and see what openings exist. We are juggling a number of presentations. How is next week looking for you?

Mornings 9am-1pm Pacific would work all days. Later in the day, 2pm -3pm Pacific would work on Monday, Tuesday, and 3-5pm Pacific on Wednesday, Thursday, Friday.

cheers,  
anurag

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Thursday, April 04, 2013 3:42 AM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: it was really good to sync up today. I would like to take you up on the offer to speak to the interagency group - to present the argument for a centralized repository and to describe our proposal in detail.

You had mentioned that the group meets on thursdays. Would April 25th Thursday work? If not, the following thursday (May 2nd)? I was initially trying to make April 18th work but we just moved from LA to Palo Alto - which makes for a long TODO list, as always....

Would be good to chat again sometime this week or next and discuss what would be good to cover in the presentation.

cheers,

anurag

On Tue, Apr 2, 2013 at 3:39 PM, Anurag Acharya (b) (6) wrote:

Sounds good. I will be a (b) (6)

anurag

On Tue, Apr 2, 2013 at 3:21 PM, Stebbins, Michael J. (b) (6) wrote:

How about tomorrow at 530pm Eastern?

**From:** Anurag Acharya [mailto:(b) (6)]

**Sent:** Tuesday, April 02, 2013 2:17 PM

**To:** Stebbins, Michael J.

**Subject:** Re: repository for federally funded research articles

Hi Mike: looks like we missed each other. Should we reschedule? Any time after 10am Pacific/1pm Eastern would work for me this week. Next week, 10am-2pm Pacific would work Mon->Thurs and 10-1pm Friday.

cheers,

anurag

On Fri, Mar 29, 2013 at 12:51 PM, Anurag Acharya (b) (6) wrote:

Hi Mike: thanks for the quick response! Sorry to interrupt you on your vacation :(

Tuesday 1pm Eastern/10am Pacific would work for me. If you would prefer to call, I will be at (b) (6)  
If it would be easier for me to call, let me know the number to call.

anurag

On Fri, Mar 29, 2013 at 12:18 PM, Stebbins, Michael J. (b) (6) wrote:

Sorry. I am on vacation. How about Tuesday? I am open from 1 -3.

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**From:** Anurag Acharya [mailto:(b) (6)]

**Sent:** Friday, March 29, 2013 02:46 PM

**To:** Stebbins, Michael J.

**Subject:** Re: repository for federal ly funded research articles

Hi Mike: just checking in to see if we are on for talking some time next week.

cheers,

anurag

On Tue, Mar 26, 2013 at 12:46 PM, Anurag Acharya (b) (6) wrote:

Sure. Mon/Tues/Thurs/Fri morning Pacific would work for me next week. If none of these work for you, let me know some times that would.

cheers,

anurag

On Fri, Mar 22, 2013 at 3:38 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks Anurag,

Do you have time to talk again on the week of April 1<sup>st</sup>?

Best,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 15, 2013 9:47 PM  
**To:** Stebbins, Michael J.  
**Subject:** repository for federally funded research articles

Hi Mike: congratulations on the new OSTP policy on increasing public access to research articles funded by federal agencies!

One of the key issues for the success of the policy will be whether these articles are included in a publicly available repository. In addition to ensuring a consistent access mechanism for all users, inclusion in a repository would also help ensure archival access and long-term stewardship.

As the lead for Google Scholar, I have worked with publishers and libraries worldwide. I have also worked with most federal agencies and depts for indexing their existing collections of research articles. Based on my experience, I would like to share recommendations/proposals regarding repositories for federally funded research articles.

I am hoping this is of interest. I would be happy to visit or join a conversation.

cheers,

anurag



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**From:** George Ivanov (b) (6)  
**Sent:** Friday, April 05, 2013 11:35 AM  
**To:** Edelman, R. David  
**Subject:** Catching Up

Hi David,

I hope the week is going well on your end. Following up on a separate thread - Chris Urmson, the head of our autonomous vehicle program, is going to be in town next week for an ITIF panel and was interested in meeting with you to discuss some of your planned initiatives on this topic and to give you an update on where things stand on our end. Would you happen to have some time to join us in our DC office next Thursday or Friday?

Also, last week I ran across an interesting [article on eye-tracking](#), that provides some good food for thought as these technologies become more common.

Sincerely,  
George

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

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**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, April 05, 2013 3:34 PM  
**To:** Edelman, R. David  
**Subject:** Microsoft Patent Tracker

thought this David Balto piece might interest you -

<http://www.usnews.com/opinion/blogs/economic-intelligence/2013/03/29/time-for-transparency-on-microsofts-patent-troll-privateering>

Some of Microsoft's patent holdings are relatively well-known, since they are either assigned to Microsoft itself or a known subsidiary of Microsoft. But Microsoft over the years has grown very close to the patent assertion entity community. It has strong ties with Intellectual Ventures, Rockstar and MOSAID, three of the world's largest patent trolls. When patents are transferred to trolls, identifying the ultimate "owner" of a patent is likely to be complicated and will frequently fail to reveal the information that might be of most interest to the market or enforcers.

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Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

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**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, April 05, 2013 2:43 PM  
**To:** Edelman, R. David  
**Cc:** George Ivanov  
**Subject:** Fwd: Patent Privateering comments of Google, Blackberry, RedHat, Earthlink  
**Attachments:** PAE Comments 04 05 13.pdf

Today Google, Blackberry, Earthlink and RedHat filed the attached comments to the Department of Justice and Federal Trade Commission on how patent trolls are harming competition and innovation, focusing on the worrying trend of companies transferring their patents to trolls and providing incentives to assert those patents against their competitors.

Our blog post follows. Please let me know if you have any questions.

- Johanna

<http://googlepublicpolicy.blogspot.com/>

## It's time to take action against patent trolls and patent privateering

Friday, April 5, 2013 at 11:00 AM ET

Posted by Matthew Bye, Senior Competition Counsel

Today, we submitted comments together with BlackBerry, EarthLink and Red Hat to the Federal Trade Commission and Department of Justice on the growing harm caused by patent assertion entities (more widely known as patent trolls).

We've been encouraged by recent attention on the problem of trolls, which cost the U.S. economy nearly \$30 billion a year. Trolls are hurting consumers and are increasingly going after small businesses, hampering innovation and reducing competition.

Our comments today also focus on a worrisome trend: some companies are increasingly transferring patents to trolls—and providing incentives to assert those patents against their competitors. These transfers can raise rivals' costs and undermine patent peace.

This trend has been referred to as "patent privateering": a company sells patents to trolls with the goal of waging asymmetric warfare against its competitors.

Trolls use the patents they receive to sue with impunity—since they don't make anything, they can't be countersued. The transferring company hides behind the troll to shield itself from litigation, and sometimes even arranges to get a cut of the money extracted by troll lawsuits and licenses.

Privateering lets a company split its patent portfolio into smaller sub-portfolios "stacked" on each other, increasing the number of entities a firm must negotiate with and multiplying licensing costs. This behavior unfairly raises competitors' costs, ultimately driving up prices for consumers.

It also undermines incentives for companies to work together towards "patent peace" through good-faith negotiation and cross-licensing. If cross-licensing is nuclear deterrence for patents, then privateering has the opposite effect, facilitating patent proliferation and aggression.



We're asking other companies to work with us to develop cooperative licensing agreements that can help curb privateering. We're also encouraged that the FTC and DOJ are paying attention to this critical issue, and we hope they will continue to study how abusive troll litigation and patent privateering are harming innovative industries.

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Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice

(b) (6)

**COMMENTS OF GOOGLE, BLACKBERRY, EARTHLINK & RED HAT TO THE  
FEDERAL TRADE COMMISSION AND U.S. DEPARTMENT OF JUSTICE**

on

**PATENT ASSERTION ENTITIES**

Submitted via email: [ATR.LPS-PAEPublicComments@usdoj.gov](mailto:ATR.LPS-PAEPublicComments@usdoj.gov)

## Comments to the Federal Trade Commission and Department of Justice on Patent Assertion Entities

### INTRODUCTION

The Commission recognizes that Patent Assertion Entities (“PAEs”) jeopardize the patent system’s central purpose of encouraging innovation. In its 2011 *Evolving IP Marketplace* Report, the Commission observed that PAEs’ accumulation and assertion of patents impose costs that threaten to “distort competition in technology markets, raise prices and decrease incentives to innovate.”<sup>1</sup> The Commission further expressed skepticism that PAEs produce the benefits that their proponents claim or that any such benefits justify the harms that PAEs inflict.

The Commission’s skepticism appears well-founded. We believe that many PAE activities are inconsistent with the fundamental goal of the patent system – that is, “to Promote the Progress of Science and the Useful Arts.”<sup>2</sup> In particular, PAEs impose an ever-rising “tax” on innovative industries. The facts are sobering:

- PAEs are filing four times as many cases today as in 2005.
- PAE lawsuits now account for 62% of all recently filed patent litigation.
- Big tech companies face hundreds of PAE lawsuits, but small - and medium-sized companies are the most frequent targets.
- PAE claims cost U.S. companies \$29 billion in 2011; \$80 billion when accounting for all costs – direct and indirect.
- Although the Supreme Court’s decision in *eBay* limits PAEs’ ability to obtain injunctions in district court, PAEs continue to seek exclusion orders in the ITC.
- PAEs also continue to take advantage of information asymmetries that stem from poor notice and inadvertent infringement to appropriate sunk costs from firms locked into product design choices.

We therefore applaud the Commission’s and the Antitrust Division’s decision to hold a joint workshop on patent assertion entities that builds upon the Commission’s work from 2011. As the Commission noted in its 2011 Report, “[t]wo areas of patent law” – notice and remedies – “impact how well the patent system and competition policy work together to further their common goal of enhancing consumer welfare.”<sup>3</sup> Without “clear notice of what a patent covers,” and what patents exist, firms may be unsure about the potential risks of developing and

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<sup>1</sup> FEDERAL TRADE COMMISSION, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION, 71 (Mar. 2011), (hereinafter “Evolving IP Marketplace” or “2011 IP Report”), *available at* <http://www.ftc.gov/os/2011/03/110307patentreport.pdf>.

<sup>2</sup> U.S. CONST. ART 1, § 8, CL. 8.

<sup>3</sup> 2011 IP Report, *supra* note 1, at 2. “Poor patent notice also hinders competition by forcing firms to design products with incomplete knowledge of the cost and availability of different technologies.” *Id.* at 3.

commercializing high-tech products.<sup>4</sup> “Poor patent notice undermines innovation and competition by raising the risk of . . . infringement and imposing ‘a very high overhead’ on innovation.”<sup>5</sup> The Commission recognized, moreover, that the current state of the law regarding patent infringement remedies “encourage[es] patent speculation, ex post licensing and ‘being infringed’ as a business model.”<sup>6</sup> PAEs, in particular, are exploiting fuzzy patent boundaries and targeting “inadvertent infringers”<sup>7</sup> to extract economic rents that often far exceed the value of the underlying technologies. A patent system that enables the appropriation of sunk costs through excessive rents and “[d]amage awards that do not track the value of a patented invention compared to alternatives can deprive consumers of the benefits of competition among technologies.”<sup>8</sup>

Although we agree that the current patent system undesirably encourages PAE activity, we are also concerned with, and suggest that the agencies should seriously examine, the outsourcing of patent enforcement by operating companies – companies that develop technology and sell products – to PAEs and the competitive implications of such activities. So -called “privateering”<sup>9</sup> amplifies the threat to innovation and competition already posed by PAEs.

PAEs long have sought to acquire IP rights from operating companies. And operating companies long have served as targets of PAEs’ patent enforcement efforts. Today, however, we are witnessing an important shift in the relationship between certain operating companies and PAEs. Some operating companies appear to be outsourcing patent enforcement to PAEs and providing incentives to those PAEs to enforce patents against the transferring company’s rivals. Privateering poses numerous perils to competition, consumers and innovation.

*First*, operating companies’ outsourcing of patent enforcement to P AEs detrimentally alters enforcement incentives. When, for example, two operating companies each possess patents that implicate the other’s products, a common outcome is cross -licensing. Cross -licensing, particularly at low royalty levels that “net out” the value of respective IP rights, benefits competition and consumers. Cross -licensing resolves blocking positions, reduces costs and promotes the dissemination of technology and innovation. Conversely, the threat of patent countersuits may also deter firms from enforcing patents against one another. Such “mutual assured destruction” can achieve many of the same benefits as cross -licensing.

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<sup>4</sup> *Id.* at 3.

<sup>5</sup> *Id.* at 76.

<sup>6</sup> *Id.* at 148.

<sup>7</sup> *Id.* at 131.

<sup>8</sup> *Id.* at 148.

<sup>9</sup> For a discussion of patent “privateering,” see Tom Ewing, *Indirect Exploitation of Intellectual Property Rights By Corporations and Investors: IP Privateering and Modern Letters of Marque and Reprisal*, 4 HASTINGS SCI. TECH. L. J. 1 (2012). See also Susan Decker, *Patent Privateers Sail the Legal Waters against Apple, Google*, Bloomberg (Jan. 11, 2013), <http://www.bloomberg.com/news/2013-01-11/patent-privateers-sail-the-legal-waters-against-apple-google.html>.

Outsourcing to PAEs alters these incentives in ways that raise costs and harm competition. Unlike an operating company, most PAEs are immune to patent countersuits because they offer no products or services. Transferring patents to a PAE can shift symmetric patent peace into asymmetric patent aggression. Indeed, by outsourcing enforcement of part of its patent portfolio to a PAE, an operating company can try to have it both ways: The operating company can continue to deter patent suits by another operating company by virtue of its remaining patents; and it can encourage offensive actions against its rivals through strategic patent transfers to a PAE (which need not fear patent countersuits). Moreover, by outsourcing part of its portfolio to PAEs while retaining a stake in the outcome, an operating company may extract value from its own patents that it otherwise might not have been able to achieve. And although outsourcing can be met in kind, escalating patent conflicts through mutual PAE outsourcing merely imposes additional costs that ultimately harm consumers.

**Second**, in some industries, patent outsourcing arrangements between operating companies and PAEs can threaten royalty stacking and result in exploitation. In the standard-setting context and in other contexts, some patent holders make “no royalty stacking” pledges to induce Standard Setting Organizations (“SSOs”) and industry participants to adopt their technology over alternatives. In a “no stacking” commitment, a company pledges that, no matter how many of its patents implicate a particular technology or standard, the company will only seek royalties up to a certain level. By transferring patents essential to implement the committed technology to multiple PAEs, a company can seek to evade its no royalty stacking commitment. This can occur when, despite agreements by each PAE *individually* to honor the operating company’s royalty cap, there is no obligation by the PAEs and operating company *collectively* to honor the cap. Disaggregation of a patent portfolio to PAEs thus can enable the very royalty stacking that a patent holder’s “no stacking” pledge was designed to prevent. Moreover, when a breach of the “no stacking” commitment occurs after an industry becomes locked into a standard, outsourcing patents subject to a no royalty stacking commitment to PAEs may result in the very type of exploitation the Commission condemned in *In re N-Data* and sought to arrest in *Rambus*.

**Third**, operating companies may combine the above tactics with contractual commitments secured from their PAE surrogates to raise rivals’ costs and thereby harm competition and stifle innovation. An operating company might parcel out pieces of a previously-unified patent portfolio to multiple PAEs pursuant to terms that give the PAEs significant incentives to raise rivals’ costs. For example, an operating company might retain the right to pull back the transferred patents if royalties secured by PAEs do not meet certain milestones. Or the transferring operating company and PAEs might agree to target the transferring operating company’s rivals. The operating company thereby may succeed in saddling rivals with additional costs that enable the transferring company (or its allies) to exercise market power.

These arrangements (and others) between operating companies and PAEs can, depending on the facts, transgress the antitrust laws. Patent acquisitions by PAEs from operating companies are subject to Section 7 of the Clayton Act, as well as the Sherman Act. Schemes by which operating companies outsource patents to PAE proxies to raise rivals’ costs may be subject to invalidation under Sherman Act Section 1 and Section 2. And, depending on the circumstances, employing PAE enforcement agents to evade FRAND commitments (including no royalty

stacking pledges) may violate precedent under Section 5 of the FTC Act as well as the Sherman Act.

We accordingly recommend that the FTC employ its authority under Section 6(b) of the FTC Act, 15 U.S.C. § 46, to initiate an inquiry into the relationship between PAEs and operating companies – whether as a discrete topic or as part of a broader Section 6(b) inquiry into PAEs. A Section 6(b) inquiry will enable the Commission to probe this important area and answer many important questions. For example:

- How prevalent is the outsourcing of patent enforcement by operating companies to PAEs?
- What types of arrangement have PAEs and operating companies consummated?
- What motivates these arrangements?
- What are the likely competitive harms and benefits of patent outsourcing?
- What are the competitive implications of the secrecy with which many PAEs conduct their operations?
- Do the particular terms of outsourcing arrangements indicate that operating companies are employing PAE proxies as competitive weapons?

A Section 6(b) inquiry focused on these and other questions would enable the Commission and the public to deepen their understanding of how operating companies' arrangements with PAEs affect innovation, competition and consumers.<sup>10</sup> The fruits of a Section 6(b) inquiry also would provide a foundation for the antitrust agencies to assess whether the solutions to the competitive concerns patent outsourcing arrangements pose lie in antitrust enforcement, in changes in the patent laws (where the antitrust enforcement agencies might play an important advocacy role), or elsewhere.

## **I. PAEs Continue To Hinder Innovative Industries**

The threat that PAEs pose to innovative industries continues to grow. The Commission's *2011 IP Report* explained how PAEs impose an *ex post* "tax" on innovation. When a PAE asserts a patent obtained from a third party against a manufacturer, "[a] manufacturer's royalty payment may raise costs to consumers, but it obtains only the avoidance of infringement litigation, not the benefit of the technology itself."<sup>11</sup> Put differently, the "manufacturer's costs will increase and its return on investment will decrease after it has developed and commercialized a product."<sup>12</sup> In short, by seeking to hold up firms that have commercialized

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<sup>10</sup> We believe the public would benefit from the details of the Commission's finding, should the Commission elect to release a report.

<sup>11</sup> *Evolving IP Marketplace*, *supra* note 1, at 52.

<sup>12</sup> *Id.* at 53.

products, PAEs threaten to “distort competition in technology markets, raise prices and decrease incentives to innovate.”<sup>13</sup>

Many others have described PAEs’ harmful effects on innovation. Some have argued that “PAEs represent a ‘socially wasteful’ business activity, diverting resources from more useful areas to the fora of litigation.”<sup>14</sup> President Obama recently called PAEs a “classic example” of firms that “don’t actually produce anything themselves. They’re just trying to essentially leverage and hijack somebody else’s idea and see if they can extort money out of them.”<sup>15</sup> President Obama suggested that “smarter patent laws” might be one possible solution to the problem.<sup>16</sup> Google has proposed that “Congress should [] make it easier for companies to recover money spent defending against frivolous troll suits” by passing legislation similar to “the bipartisan SHIELD Act” and “expanding the covered business method program of the America Invents Act to include more patents.”<sup>17</sup> Still others suggest that the President could encourage “increase[d] antitrust scrutiny” of PAEs that are, in essence, imposing “a startup tax across the tech sector.”<sup>18</sup>

Recent data indicate that the number of exploitative suits and economic rents extracted by PAEs is growing dramatically and the worst is yet to come. Both the number of PAEs and the number of patents held by PAEs are increasing; PAE “innovation” in rent-extraction techniques is occurring rapidly and spreading by imitation. PAEs retain the threat of obtaining ITC exclusion orders even if *eBay* has eased the threat of a district court injunction. Without public policy reforms, the costs PAEs impose – in the form of defense costs, licensing fees and litigation awards – will continue to rise.

#### **A. Patent Lawsuits Filed By PAEs Nearly Doubled from 2007 To 2011**

The increase in lawsuits filed by PAEs over the last decade is dramatic. Last year, 4,125 of the 6,934 defendants (59%) named in patent cases were named by PAE plaintiffs.<sup>19</sup> In 2011, operating companies mounted nearly 6,000 litigation defenses against PAEs, a more than 400%

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<sup>13</sup> *Id.* at 71.

<sup>14</sup> Christian Helmers & Luke McDonagh, *Trolls at the High Court?*, LSE Law, Society & Economy Working Papers 13/2012 (2012), available at [http://www.lse.ac.uk/collections/law/wps/WPS2012-13\\_McDonagh.pdf](http://www.lse.ac.uk/collections/law/wps/WPS2012-13_McDonagh.pdf).

<sup>15</sup> Alan Schoenbaum, *President Obama Joins Innovators In Our Fight Against Patent Trolls*, The Rackspace Blog (Feb. 20, 2013), <http://www.rackspace.com/blog/president-obama-joins-innovators-in-our-fight-against-patent-trolls/>.

<sup>16</sup> *Id.*

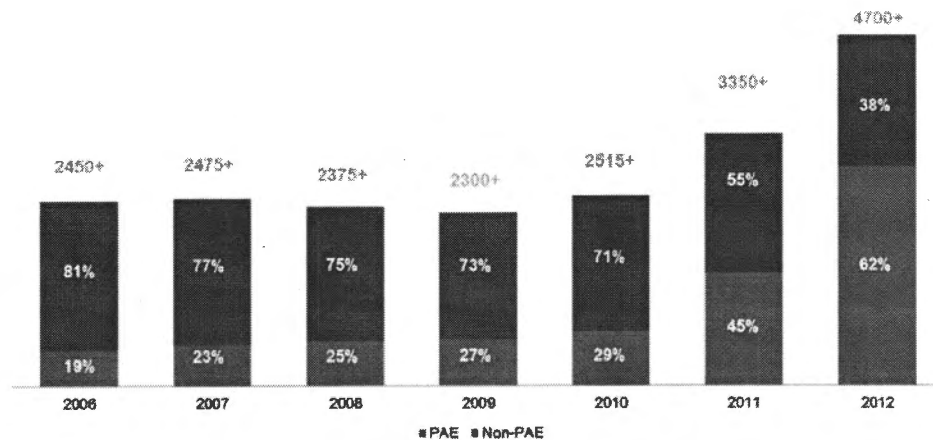
<sup>17</sup> Suzanne Michel, *Let’s Defend Innovators Against Patent Trolls*, Google Public Policy Blog (Feb. 27, 2013), <http://googlepublicpolicy.blogspot.com/2013/02/lets-defend-innovators-against-patent.html>.

<sup>18</sup> Jeff John Roberts, *Obama Says Patent Trolls ‘Hijack’ and ‘Extort;’ So Do Something Mr. President*, GigaOM (Feb. 16, 2013), <http://gigaom.com/2013/02/16/obama-says-patent-trolls-hijack-and-extort-so-do-something-mr-president/>.

<sup>19</sup> RPX, *Tracking PAE Activity: A Post-Script to the DOJ Review*, <http://www.rpxcorp.com/index.cfm?pageid=14&itemid=29> (Apr. 1, 2013).

increase since 2005.<sup>20</sup> Today, lawsuits filed by PAEs account for 62% of all patent cases.<sup>21</sup> The following graphs depict this dramatic increase in PAE-related litigation:

**PAE Suits Have Become the Majority of All Patent Suits<sup>22</sup>**



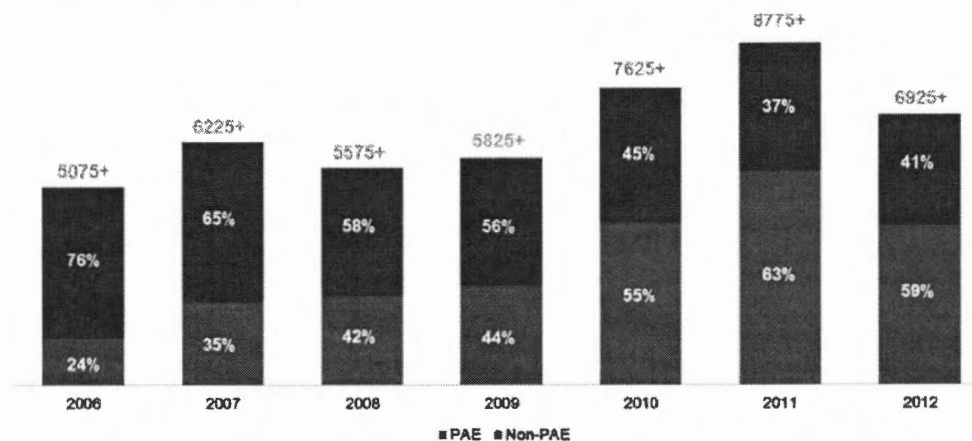
<sup>20</sup> James E. Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, at 31, Table 4, BOSTON UNIV. SCHOOL OF LAW, Law and Economics Research Paper No. 12-34 (June 28, 2012), available at <http://ssrn.com/abstract=2091210>.

<sup>21</sup> RPX, *Tracking PAE Activity: A Post-Script to the DOJ Review*, *supra* note 19. In a study conducted by Lex Machina, “[o]f the 5 parties in the sample who filed the greatest number of lawsuits during the period studied, 4 were” PAEs; only one was an operating company. Sara Jeruss, Robin Feldman, & Joshua Walker, *The American Inventor Act 500: Effect of Monopolization Entities on U.S. Litigation*, 11 DUKE L. & TECH. REV. 357, 361 (2012).

<sup>22</sup> *Id.*; see also Patent Freedom, *Litigations Over Time*, <https://www.patentfreedom.com/about-npes/litigations/> (last visited Apr. 1, 2013). The America Invents Act’s joinder rule may account for some of the increase in the number of suits filed in 2012 over 2011. See Tracie L. Bryant, *The America Invents Act: Slaying Trolls, Limiting Joinder*, 25 HARV. J.L. TECH. 673, 689-90 (2012).



## Number of PAE Defendants Has Increased Significantly In Recent Years <sup>23</sup>



PAEs have focused much of their attention and resources on the information technology (“IT”) industry. There are a number of reasons for this: (1) companies in the industry often enter bankruptcy or become so distressed they are willing to sell off their patents; (2) products in this field are often covered by many patents; and (3) IT patents, some assert, are relatively easy to procure as “paper inventions” – *i.e.*, without constructing the underlying invention.<sup>24</sup> As noted, however, PAE activities threaten to impose costs and hinder innovation in numerous other industries as well.

### B. PAEs Continue To Seek ITC Exclusion Orders

Although the Supreme Court has limited PAEs’ ability to obtain injunctions in the federal courts,<sup>25</sup> PAEs remain (as a result of the interpretation of “domestic injury”) able to seek exclusion orders in the International Trade Commission (“ITC”). While “the injunction grant rate post-*eBay* in district courts has declined to around 75 percent . . . the ITC’s injunction rate has held steady at 100 percent.”<sup>26</sup> This reflects that “[p]arties who win in district court but would not receive an injunction under *eBay* can circumvent this response by refiling their cases in the

<sup>23</sup> *Id.* The significant decrease in the number of operating company defendants from 2011 to 2012 may reflect the impact of the America Invents Act, which increases the cost of suing multiple defendants by limiting the circumstances under which multiple defendants can be joined in the same suit. See Bryant, *supra* note 22, at 689-90.

<sup>24</sup> Colleen V. Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents*, 87 N.C. L. REV. 1571, 1581 (2009), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1396319](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1396319).

<sup>25</sup> *eBay, Inc. v. MercExchange, LLC*, 547 U.S. 388 (2006).

<sup>26</sup> Colleen V. Chien & Mark A. Lemley, *Patents and the Public Interest*, N.Y. TIMES (Dec. 13, 2011), <http://www.nytimes.com/2011/12/13/opinion/patents-smartphones-and-the-public-interest.html>.

ITC because a district court's denial of an injunction request is no barrier to the grant of an exclusion order by the ITC."<sup>27</sup>

It is little wonder that PAEs have shifted their focus to the ITC. One set of scholars has observed that, because "nearly every patentee can bring an ITC complaint, and nearly every accused infringer is a potential ITC defendant," the ITC has become the "mainstream venue in which to file patent grievances."<sup>28</sup> Indeed, the ITC's "caseload has more than doubled, from 29 cases in 2005 to 64 [in 2011]."<sup>29</sup> Based on a recent analysis, Professor Colleen Chien estimates that PAEs account for more than one-quarter of all patent cases filed in the ITC.<sup>30</sup> "Growth in NPE-initiated ITC cases has outpaced that in ITC cases in general [from 2006 to 2011], with the NPE share of all ITC cases growing from 7% to 25% and the number of respondents from NPE-initiated ITC cases growing to over 50% of all ITC respondents."<sup>31</sup>

Put differently, an "unintended consequence" of *eBay* has been to drive "patentees to the ITC in hopes of obtaining an injunction no longer available in the federal district courts."<sup>32</sup> In some instances, moreover, it appears that PAEs have employed operating company licensees' activities to help establish domestic industry, a pre-requisite for a successful suit at the ITC.<sup>33</sup>

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<sup>27</sup> Colleen V. Chien & Mark A. Lemley, *Patent Holdup, the ITC, and the Public Interest*, CORNELL L. REV., Stanford Public Law Working Paper No. 2022168 at 116 (July 2, 2012), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2022168](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2022168).

<sup>28</sup> *Id.* at 115.

<sup>29</sup> Chien & Lemley, *Patents and the Public Interest*, *supra* note 26.

<sup>30</sup> See *The International Trade Commission and Patent Disputes: Hearing Before the Subcomm. On Intellectual Prop., Competition and the Internet of the H. Comm. On the Judiciary*, 112 Cong. (2012) (statement of Colleen V. Chien, Santa Clara University Law School), available at [http://judiciary.house.gov/hearings/Hearings%202012/hear\\_07182012.html](http://judiciary.house.gov/hearings/Hearings%202012/hear_07182012.html).

<sup>31</sup> Chien & Lemley, *Patent Holdup, the ITC, and the Public Interest*, *supra* note 27, at 115. As defined by professors Chien and Lemley, a non-practicing entity ("NPE") includes PAEs as well as other firms such as individuals and universities. *Id.* at 110.

<sup>32</sup> *Id.* at 140.

<sup>33</sup> See, e.g., *In re Certain Electronic Devices Including Handheld Wireless Communication Devices*, Inv. Nos. 337-TA-667, 337-TA-673 (combined) (2009) (finding domestic industry requirement met where PAE licensed an operating company, which engineered and produced articles covered by PAE's U.S. patents); see also Wei Wang, *Non-Practicing Complainants at the ITC: Domestic Industry or Not?*, 27 BERKELEY TECH. L.J. 409, 435-63 (2012). Moreover, when a PAE relies on licensing activities to establish a domestic industry, licensees may not need to make a product covered by the patented invention. According to a recent ITC decision, "the [Section 337] statute does not require a complainant to manufacture the patented product nor does it require that a complainant show that a product covered by the . . . patent is made by the complainant's licensee." Ralph Mittelberger & Taniel Anderson, *Non-Practicing Entities and the Backdoor to the ITC*, at 6, 10-11, Support Paper for ABA Antitrust Section Spring Meeting (2011) (quoting Initial Determination (Public Version), at 10, *In re Certain Digital Satellite Systems (DSS) Receivers & Components Thereof*, Inv. No. 337-TA-392 (April 2001)), available at [http://www.aipla.org/2011/spring/MATERIALS/Mittelberger\\_Paper.pdf](http://www.aipla.org/2011/spring/MATERIALS/Mittelberger_Paper.pdf).

### C. PAE Patent Enforcement Imposes A Tax On Innovation

The explosion of PAE litigation has worked to raise the costs confronting innovative industries. One study found that PAEs have inflicted \$500 billion in costs on publicly -traded companies since 1990, with total costs (including direct and indirect costs) of more than \$83 billion per year over each of the past four years.<sup>34</sup> In 2011, the “direct costs of [PAE] patent assertions . . . totaled about \$29 billion . . . including the cost s of non-litigated assertions.”<sup>35</sup> These direct costs, which have doubled from 2009 to 2011 and have increased by 400% since 2005,<sup>36</sup> include legal defense fees, licensing arrangements and monetary judgments, all of which have the consequences of diverting resources and delaying new products.<sup>37</sup> The costs of defending a patent infringement suit are startling. According to industry estimates, the median cost of patent litigation breaks down as follows<sup>38</sup>:

#### Patent Infringement Suit:

<\$1 Million at risk:	\$ 650,000
\$1-25M at risk:	\$ 2,500,000
>\$25M at risk:	\$ 5,000,000

These costs are merely the legal costs borne by defendants. Combine the legal costs with settlement costs, according to one source, and the “mean total litigation costs are \$1.75 million for small/medium companies (defined as companies with less t han \$1 billion in reported revenue) and \$8.79 million for large companies.”<sup>39</sup> To understand the harmful impact of excessive litigation, one must add to these out-of-pocket costs the loss of time, energy and creativity of managers, engineers and scientists caught up in the litigation process.<sup>40</sup>

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<sup>34</sup> James E. Bessen, et al., *The Private and Social Costs of Patent Trolls*, at 4, Working Paper, SSRN-id1957325 (September 19, 2011), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1930272](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1930272).

<sup>35</sup> James Bessen and Michael J. Meurer, *The Direct Costs from NPE Disputes*, Boston Univ. School of Law Working Paper No. 12-34 at 2 (June 22, 2012), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2091210](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2091210).

<sup>36</sup> *Patent Trolls – A New Study and a Survey*, Groklaw (July 13, 2012), <http://www.groklaw.net/articlebasic.php?story=20120712151437524>.

<sup>37</sup> Bessen, et al., *supra* note 34, at 4.

<sup>38</sup> Letter from William Barber, President American Intellectual Property Law Association to Hon. Victoria Espinel, United States Intellectual Property Enforcement Coordinator, OMB, Executive Office of the President, at 3 (Aug. 10, 2012), available at [http://www.aipla.org/advocacy/executive/Documents/AIPLA %20Comments%20to%20IPEC%20on%20Joint%20Strategic%20Plan%20on%20IP%20Enforcement%20-%2008.10.12.pdf](http://www.aipla.org/advocacy/executive/Documents/AIPLA%20Comments%20to%20IPEC%20on%20Joint%20Strategic%20Plan%20on%20IP%20Enforcement%20-%2008.10.12.pdf).

<sup>39</sup> James Bessen and Michael J. Meurer, *The Direct Costs from NPE Disputes*, *supra* note 35, at 12-13.

<sup>40</sup> See Colleen V. Chien, *Startups and Patent Trolls*, Working Paper, at 10-14 (Sep. 28, 2012) (discussing impact of PAE demands on entrepreneurial firms’ operations), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2146251](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2146251).

The prospect of incurring these substantial costs drives many defendants to settle even the most unmeritorious of claims.<sup>41</sup> And these settlements are by no means trivial. In fact, “it is clear that non-litigated patent assertions are responsible for much of the direct costs imposed by [PAEs] on operating companies.”<sup>42</sup> According to one source, the mean total cost per company for a non-litigated patent assertion – that is, the direct and indirect costs resulting from PAE enforcement and licensing efforts shy of litigation – is \$42.4 million for large companies and \$8.1 million for small/medium companies, averaging \$29.8 million across all companies.<sup>43</sup> PAEs, therefore, “have nothing to lose and much to gain by litigating aggressively”<sup>44</sup> or demanding royalties based in large part on design-around costs.<sup>45</sup>

Despite the significant costs they inflict, a very small share of PAE revenues is used to support innovation or invention. For that reason, some researchers contend that “a substantial part of direct costs of [PAE] litigation is a deadweight loss to society.”<sup>46</sup> They conclude that approximately only one quarter of PAE revenues flows to innovators “and at least that much go[es] toward legal fees.”<sup>47</sup> Moreover, other empirical research concludes that “less than two percent of losses in wealth caused by PAEs passed through to independent inventors.”<sup>48</sup> And only 29% of PAE patents come *from* small inventors; 43% come from large firms.<sup>49</sup> Thus, although supporters contend that PAEs produce certain benefits – for example, efficiently dividing labor between innovators and experts in enforcement; enabling smaller firms and sole inventors to achieve a return on otherwise unmonetizable investments in innovation; facilitating efficient management of large IP portfolios<sup>50</sup> – the Commission rightly described these benefits as “uncertain”<sup>51</sup> and likely outweighed by the harms PAEs inflict.<sup>52</sup>

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<sup>41</sup> PAEs rarely prevail on the merits of infringement. See John R. Allison, Mark A. Lemley & Joshua Walker, *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 GEO. L.J. 677, 706 (2011) (PAE win rate in cases decided on the merits is just 8%, versus 40% for other entities).

<sup>42</sup> Bessen & Meurer, *supra* note 35, at 17.

<sup>43</sup> *Id.* at 30.

<sup>44</sup> Brian Yeh, *An Overview of the ‘Patent Trolls’ Debate*, Congressional Research Service Report for Congress, at 13 (Aug. 20, 2012), available at [https://www.eff.org/sites/default/files/R42668\\_0.pdf](https://www.eff.org/sites/default/files/R42668_0.pdf).

<sup>45</sup> A large share of the costs PAEs impose on innovation are not incurred in litigation, but settlements obtained under threat of litigation. Therefore, studies that attempt to measure economic harm from PAEs by examining litigation outcomes almost certainly and substantially understate the economic harm they cause.

<sup>46</sup> Catherine Dunn, *Putting a Price Tag on ‘Patent Troll’ Litigation*, Law.com (July 11, 2012), [http://www.law.com/corporatecounsel/PubArticleCC.jsp?id=1202562484895&Putting a Price Tag on Patent Troll Litigation&slreturn=20121028183631](http://www.law.com/corporatecounsel/PubArticleCC.jsp?id=1202562484895&Putting+a+Price+Tag+on+Patent+Troll+Litigation&slreturn=20121028183631) (quoting Bessen & Meurer).

<sup>47</sup> Yeh, *supra* note 44, at 2; see also James Bessen & Michael Meurer, *Patent Trolls in Public*, Patently-O (Mar. 19, 2013), <http://www.patentlyo.com/patent/2013/03/patent-trolls-in-public.html> (estimating that only 26% of licensing revenues “flows to inventors of all types”).

<sup>48</sup> *Id.* at 8 (emphasis in original).

<sup>49</sup> *Id.* (citing Michael Risch, *Patent Troll Myths*, 42 SETON HALL L. REV. 457, 459-61 (2012)).

<sup>50</sup> See, e.g., Timothy Simcoe, *Patent Assertion Entities[.] Potential Efficiencies* (Dec. 10, 2012), <http://www.justice.gov/atr/public/workshops/pae/presentations/290072.pdf>.

<sup>51</sup> Evolving IP Marketplace, *supra* note 1, at 71.

## II. Patent Transfers To PAEs Create Additional Perils

An accelerating phenomenon threatens to exacerbate the above-described harms and poses additional perils to competition and innovation. Although operating companies have consistently raised concerns about PAEs,<sup>53</sup> some such companies increasingly employ PAEs as patent enforcement surrogates. These operating companies sell or assign pieces of (or entire) patent portfolios to PAEs that then assert the acquired patents against the transferring company's rivals. Put differently, although operating companies previously funded certain PAE activities and served as a well-spring for patents PAEs enforce,<sup>54</sup> operating companies are increasingly employing PAEs to strategic ends in new and evolving relationships.

The evolving relationships between operating companies and PAEs pose numerous distinct threats to innovation, competition and consumers. We describe several noteworthy harms below: (i) how transfers from operating companies to PAEs can harm innovation and raise rivals' costs by altering enforcement incentives; (ii) how patent outsourcing arrangements can foster exploitation by facilitating evasion of no royalty stacking commitments in some industries; and (iii) how contractual arrangements between operating companies and PAEs can further exclusionary ends. Unfortunately, these are but a few examples of the many ways operating companies and PAEs interact that may implicate competition policy and our nation's antitrust laws.<sup>55</sup>

### A. Outsourcing To PAEs Impairs Competition By Undermining Patent Peace

It is commonly recognized that cross-licensing benefits consumers and innovation.<sup>56</sup> Cross-licenses remove blocking positions, facilitate the dissemination of technology, reduce

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<sup>52</sup> *Id.* (claiming that PAEs' acquisition and assertion of patents against existing products "can distort competition in technology markets, raise prices and decrease incentives to innovate").

<sup>53</sup> See, e.g., Tim Frain, *Nokia Response to Patent Standards Workshop, Project No., P11-1204*, at 5 (July 8, 2011), ("From a policy and regulator's perspective, the role and impact of NPEs on legitimate enterprise perhaps deserves more careful attention."), available at <http://www.ftc.gov/os/comments/patentstandardsworkshop/00032-60891.pdf>; Horacio Gutierrez, *The SHIELD Act: Another Step in the Patent Reform Discussion*, Technet (Feb. 27, 2013), [http://blogs.technet.com/b/microsoft\\_on\\_the\\_issues/archive/2013/02/27/the-shield-act-another-step-in-the-patent-reform-discussion.aspx](http://blogs.technet.com/b/microsoft_on_the_issues/archive/2013/02/27/the-shield-act-another-step-in-the-patent-reform-discussion.aspx) ("Microsoft is harassed by PAEs as much as anyone in our industry: at any given moment, we face as many as 60 PAE suits, comprising the vast majority of patent cases brought against us .").

<sup>54</sup> See generally Tom Ewing & Robin Feldman, *The Giants Among Us*, 2012 STAN. TECH. L. REV. 1, at ¶¶ 4-5 (2012) (describing how operating companies funded PAEs and how "mass aggregators purchase large chunks, even the majority, of an operating company's patents and patent applications"), available at <http://stlr.stanford.edu/pdf/feldman-giants-among-us.pdf>.

<sup>55</sup> Another harm not discussed at length here includes how certain PAEs' accretion of massive patent portfolios might anticompetitively shield weak patents.

<sup>56</sup> See Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, 1 INNOVATION POLICY AND THE ECONOMY 119, 127, 129-30 (2001) ("[C]ross licenses can solve the complements problem, at least among two firms, and thus be highly procompetitive"), available at <http://faculty.haas.berkeley.edu/shapiro/thicket.pdf>.

FRAND commitment made by the transferor and seeks exorbitant rates against a locked -in industry.<sup>67</sup> The Commission's 2011 IP Report similarly recognized that PAEs' acquisition of and enforcement of patents also can foster exploitation. The Commission wrote:

the harms associated with PAE activity are the harms associated with all *ex post* patent assertions against manufacturers that have independently created or obtained the technology . . . . Such transactions can distort competition in technology markets, raise prices and decrease incentives to innovate. The extent of PAE activity in the IT sector amplifies the potential harm there.<sup>68</sup>

The threat of PAE *ex post* assertions is magnified by the fact that many PAE patents are of questionable merit. PAEs only win 9.2% of the infringement suits they bring that actually reach trial (only 8% if default judgments are excluded).<sup>69</sup> In contrast, operating companies win 40% of their cases that reach trial (50% if default judgments are included).<sup>70</sup> Thus, in general, PAEs assert weak patents. Carl Shapiro recently demonstrated that "a large fraction of negotiated royalties" firms can extract using "weak patents covering a minor feature of a high - margin product that takes time to redesign" is attributable "to hold -up, not to the value of the patented technology."<sup>71</sup>

Operating companies and PAEs may engage in joint *ex post* exploitation. Certain transfers from operating companies to PAEs threaten to evade FRAND commitments *even when*, consistent with *In re N-Data*, the PAE agrees to honor a specific FRAND commitment made by the transferor.<sup>72</sup> In particular, in some industries, operating companies that have made specific commitments to avoid royalty stacking may, in tandem with PAEs, be evading those commitments. The result, as with other transfers to PAEs, is to "raise prices and decrease incentives to innovate."<sup>73</sup>

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<sup>67</sup> See *Negotiated Data Solutions LLC*, FTC Docket No. C-4234, 2008 WL 2583308 (Jan. 22, 2008) (entering consent order binding patent holder to its predecessor in interest's commitment to SSO); see also *In re Negotiated Data Solutions LLC*, No. 0510094, Statement of the FTC, <http://www.ftc.gov/os/caselist/0510094/080122statement.pdf>.

<sup>68</sup> *Evolving IP Marketplace*, *supra* note 1, at 71.

<sup>69</sup> Mike Mansick, *Vast Majority of Software Patents in Lawsuits Lose*, TechDirt (Sep. 24, 2010), <http://www.techdirt.com/articles/20100924/02132911143/vast-majority-of-software-patents-in-lawsuits-lose.shtml>; John Allison, Mark Lemley & Joshua Walker, *Patent Quality and Settlement Among Repeat Patent Litigants*, Stanford Law and Economics Olin Working Paper No. 398 (Sep. 30, 2012), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1677785](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1677785).

<sup>70</sup> Mansick, *supra* note 69.

<sup>71</sup> Carl Shapiro, *Injunctions, Hold-Up, and Patent Royalties*, 12 AM. L. & ECON. REV. 281, 398 (2010), available at <http://faculty.haas.berkeley.edu/shapiro/royalties.pdf>.

<sup>72</sup> See Rafe Blandford, *Google Files Antitrust Complaint against Nokia and Microsoft*, All About Symbian, June 1, 2012, [http://www.allaboutsymbian.com/flow/item/14946\\_Google\\_files\\_EU\\_antitrust\\_comp.php](http://www.allaboutsymbian.com/flow/item/14946_Google_files_EU_antitrust_comp.php) (quoting Nokia statement that "any commitments made for standards essential patents transfer to the acquirer and existing licenses for the patents continue").

<sup>73</sup> See *Evolving IP Marketplace*, *supra* note 1, at 71.



Royalty stacking – or the “Cournot Complements problem” – can occur, for example, when multiple complementary patent holders seek to assert infringement by a single device.<sup>74</sup> This theory holds that because each patent holder maximizes only its own revenue, each will seek to maximize the royalty owed to it, even though the overall effect is to reduce royalties for rights holders in the aggregate below optimal levels.<sup>75</sup> These aggregate licensing costs might reduce overall output, and all patentees and manufacturers suffer from lower revenues; consumers suffer from reduced supply, limited features and higher prices.<sup>76</sup>

One procompetitive function of patent pools is to mitigate royalty stacking by combining complementary assets and licensing efficiently.<sup>77</sup> Similarly, commitments to royalty caps or FRAND licensing secured by certain industry participants from rights holders (whether through formal standard setting, unilateral commitments by patent holders, or otherwise) can mitigate royalty stacking concerns.<sup>78</sup> Such assurances work to keep royalties reasonable once firms have adopted standardized technologies.<sup>79</sup> One type of assurance is a “no stacking” pledge. Often this takes the form of a commitment by a rights holder not to seek more than a specific royalty level from implementers of particular standards no matter how many patents the rights holder possesses and no matter how many standards an implementer uses.<sup>80</sup>

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<sup>74</sup> Brian J. Love, *Patentee Overcompensation and the Entire Market Value Rule*, 60 STAN. L. REV. 263, 280 (2007) (showing that where a product infringes patents held by multiple entities, “the infringer faces the prospect of paying overlapping royalties”).

<sup>75</sup> See Carl Shapiro, *Navigating the Patent Thicket*, *supra* note 56, at 119, 123-24, 127 (“The buildup of licensing fees can . . . reduce both consumer welfare and the profits of patentees. . . . [T]he prospect of paying such royalties [also] necessarily reduces the return to new product design and development, and thus can easily be a drag on innovation and commercialization of new technologies.”); Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2011 (2007) (“Not surprisingly, the existence of such ‘royalty stacking’ exacerbates the holdup problem,” in a way that is more than “simply the sum of the royalty rates that would be negotiated bilaterally by each patent holder in the absence of other patent holders.”), available at <http://faculty.haas.berkeley.edu/shapiro/stacking.pdf>.

<sup>76</sup> Brian J. Love, *Patentee Overcompensation and the Entire Market Value Rule*, 60 STAN. L. REV. 263, 272 (2007) (discussing the “socially undesirable consequences” of systematic “overcompensation” such as “reduced incentives for investment in beneficial technology, increased risk of royalty stacking, and increased incentives for patent trolling”), available at [http://works.bepress.com/cgi/viewcontent.cgi?article=1000&context=brian\\_love](http://works.bepress.com/cgi/viewcontent.cgi?article=1000&context=brian_love).

<sup>77</sup> Nicholas Economides and Steven C. Salop, *Competition and Integration Among Complements and Network Market Structure*, 60 J. INDUSTRIAL ECON. 105, 106 (March 1992) available at [http://www.stern.nyu.edu/networks/Economides\\_Salop\\_Competition\\_and\\_Integration.pdf](http://www.stern.nyu.edu/networks/Economides_Salop_Competition_and_Integration.pdf) (describing the reduction in price when two Cournot Complements merge).

<sup>78</sup> U.S. DEP’T OF JUSTICE AND FEDERAL TRADE COMM’N, ANTITRUST ENFORCEMENT & INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION, 36 (April 17, 2007).

<sup>79</sup> See Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CALIF. L. REV. 1889, 1917, 1921 (2002); see also Joseph Farrell et. al., *Standard Setting, Patents, and Holdup*, 74 ANTITRUST L. J. 603, 607 (2007) (“Ex ante, before an industry standard is chosen, there are various attractive technologies, but ex post, after industry participants choose a standard and take steps to implement it, alternative technologies become less attractive.”).

<sup>80</sup> See, e.g., Alcatel Lucent, *Alcatel-Lucent LTC Licensing*, [http://www.alcatel-lucent.com/wps/portal/!ut/p/kcxml/04\\_Sj9SPykssy0xPLMnMz0vM0Y\\_QizKLd4x39PbRL8h2VAQAw88rhg!!?LM\\_SG\\_CABINET=Innovation&LMSG\\_CONTENT\\_FILE=Innovation\\_Overview/lte\\_licensing.xml](http://www.alcatel-lucent.com/wps/portal/!ut/p/kcxml/04_Sj9SPykssy0xPLMnMz0vM0Y_QizKLd4x39PbRL8h2VAQAw88rhg!!?LM_SG_CABINET=Innovation&LMSG_CONTENT_FILE=Innovation_Overview/lte_licensing.xml) (last visited Apr. 3,

“No stacking” commitments are common in some industries. A concrete example of such a pledge is one made by Nokia. To induce adoption of its proposed LTE standard, Nokia committed not to seek more than a 2.0% royalty for *all* of its patents “essential to wireless communication standards irrespective of the number of wireless standards deployed” and denominated this pledge a “no royalty stacking” commitment.<sup>81</sup> Nokia’s commitment – and similar commitments of other cellular SEP holders – played a critical role in inducing the telecommunications industry to adopt its proposed LTE standard as a 4G cellular communications standard.<sup>82</sup> SSOs facilitate “no stacking” commitments. The IEEE, for instance, permits firms with likely essential patents to commit to not -to-exceed license fees.<sup>83</sup>

Transferors can attempt to circumvent these no royalty stacking commitments by outsourcing the enforcement of patents to PAEs. Suppose an operating company, which holds 500 patents essential to implementing a certain technology, makes a “no stacking” commitment not to charge more than 2.0% royalty for a license to all of its 500 patents for use in the field to which they are essential. The operating company then transfers 300 of its 500 essential patents to three PAEs (100 each). Further suppose that, in a purported effort to comply with *In re N-Data*, each PAE agrees to be bound by the operating company’s 2.0% royalty cap. That promise may preclude each PAE from individually charging more than 2.0% for its 100 patents. But that promise may prove insufficient to prevent *each* PAE from charging that level. Thus, the effective royalty on the essential patent portfolio may end up being 8.0% in this situation, as the operating company and each PAE may attempt to charge up to 2.0%.<sup>84</sup>

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2013) (committing Alcatel Lucent to 2 % discounted royalty rate for all patents essential to proposed LTE wireless standard).

<sup>81</sup> Nokia, *Nokia Licensing Policy on Long Term Evolution and Service Architecture Evolution Essential Patents*, Internet Archive (WayBackMachine) (July 2010 – Oct. 2010), <http://web.archive.org/web/20101015065029/http://www.nokia.com/press/ipr-information/statement/nokia-licensing-policy-on-long-term-evolution-and-service-architecture-evolution-essential-patents> (making the pledge “[t]o avoid unfavorable effects of royalty stacking”); see also Nokia Press Release, *Wireless Industry Leaders commit to framework for LTE technology IPR licensing*, Nokia.com (Apr. 14, 2008), <http://press.nokia.com/2008/04/14/wireless-industry-leaders-commit-to-framework-for-lte-technology-ipr-licensing/>.

<sup>82</sup> To allay industry concerns that adopting LTE would result in high royalties, Nokia, Sony Ericsson and other LTE supporters “formed a licensing framework for their 4G patents called Long term Evolution (LTE) in direct competition with Intel’s Wimax”. *Nokia and Sony Ericsson Developing 4G Wireless*, TechRadar (Apr. 16, 2008), <http://www.techradar.com/us/news/internet/nokia-and-sony-ericsson-developing-4g-wireless-319621>; see also Francois Leveque & Yann Meniere, *Early Commitments Help Patent Pool Formation*, (July 6, 2009), <http://ssrn.com/abstract=1121256> (“Nokia, Ericsson, and Alcatel-Lucent, agreed in 2008 on a licensing framework for their LTE patents . . . [B]y contrast with former patent pools, this initiative takes place at an early stage of the LTE deployment: LTE has been neither licensed nor commercialized yet, and the commitment is meant to boost take-up of the new technology.”).

<sup>83</sup> IEEE Standards Board Bylaws, § 6.1, (Mar. 2012) available at <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html>.

<sup>84</sup> The operating company benefits either by retaining a stake in the royalties secured by the PAE transferee or through a lump sum payment. The effective total cash payment may be significantly higher than a four-fold increase because, where the former essential patent holder may have accepted a cross-license to offset some or all of the cost of the essential patents it was licensing, PAEs do not value cross-licenses and would most frequently demand all -



In this example, by disaggregating and parceling out selected parts of its previously unified patent portfolio to PAEs, the operating company attempts to circumvent its “no stacking” commitment – indeed, its outsourcing creates the potential for the very royalty stacking by multiple rights holders that its “no stacking” pledge was designed to prevent.<sup>85</sup> Moreover, the gains from evading and exceeding the pledged rate cap by disaggregating a portfolio can exceed the deadweight loss from reduced licensed sales volume. The operating company and its transferees can then seek licensing fees that, in the aggregate, exceed the promised cap,<sup>86</sup> thereby engaging in a form of exploitative rent seeking. The 2.0% “no stacking” pledge functioned as a form of FRAND commitment. By outsourcing enforcement to multiple PAEs, the operating company seeks to evade that commitment and shares in the resulting super-FRAND returns.

### C. Operating Companies Can Employ PAEs To Harm Competition

Firms may combine the above tactics with contractual commitments extracted from PAE transferees that facilitate anticompetitive strategies. For example, a firm that made a “no stacking” pledge to an SSO or to the industry at large might seek to evade that commitment in order to raise its rivals’ costs by parceling out pieces of a previously unified portfolio to PAEs. Such PAE “privateers,” which do not confront the threat of patent countersuits, have a greater ability and incentive to target the firm’s rivals than the transferring firm, and the ability to evade a “no stacking” pledge can inflict further harms. The transferring operating company, however, might seek to further incentivize its PAE enforcement agents to target rivals through contractual mechanisms. Such provisions, in effect, can give the operating company continuing influence over the PAE, resulting in what Professor Carl Shapiro, at the FTC/DOJ PAE hearings, called a “Hybrid PAE.”<sup>87</sup>

Examples of such mechanisms might include, among others, a continuing royalty for the benefit of the transferring operating company coupled with a right by the transferring operating company to take the patents back. If a firm sells patents to a PAE (or transfers an exclusive right to sue for a lump sum royalty) the transferring firm might not maintain influence over the PAE’s

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cash payments. Moreover, cross-licenses frequently reward continuing investments in R&D, a benefit that PAE all-cash licensing eviscerates.

<sup>85</sup> Disaggregation also creates a patent thicket increasing transaction costs and the difficulty of obtaining licenses that enable freedom to operate. Bronwyn Hall et al., *Technology Entry in the Presence of Patent Thickets*, at 7, Working Paper (Jan. 2013) (“While two firms holding mutually limiting or blocking patents may resolve the threat of hold-up by contract, this is no longer as simple for firms in a triple. Here the relative value of any two firms’ patents depends on the actions of a third firm, making bargaining more difficult.”), available at [http://www.chelmers.com/projects/HHvGR\\_thickets\\_paper.pdf](http://www.chelmers.com/projects/HHvGR_thickets_paper.pdf).

<sup>86</sup> This reflects that, absent a concern that a firm’s gains from creating a double marginalization problem would exceed the costs, a “no stacking” pledge would be unnecessary. Hence the economist quip: “What’s worse than one monopolist? . . . Two monopolists.” Dirk Baur, *Integration and Competition in Securities Trading, Clearing and Settlement*, at 19, Preliminary Draft (Mar. 9, 2006) (discussing example of double marginalization problem in securities trading), available at <http://biztt.com/info/wp-content/uploads/docs/2006-0309clearing.pdf>.

<sup>87</sup> Carl Shapiro, *Patent Assertion Entities: Effective Monetizers, Tax on Innovation, or Both?*, at 4, 22 (Dec. 10, 2012), available at <http://www.ftc.gov/opp/workshops/pae/docs/cshapiro.pdf>.

arrangements; the prevalence of such arrangements; and the likely future direction of those arrangements. As one academic noted, conclusions about the effects of “privateering” are “difficult to draw with the information presently available and additional investigation seems warranted.”<sup>98</sup> A Section 6(b) study, in other words, would enable the Commission to take a logical next step from the *IP Report*’s foundation and explore the ways in which PAEs, and their relationship with operating companies, are evolving.

**Second**, a Section 6(b) study of PAE activities focusing on operating company transfers is appropriate because the terms of most transfers between operating companies and PAEs and the extent to which operating companies have transferred patents to PAEs largely remains unknown. And, of course, operating companies’ concrete plans to initiate further transfers of patents to PAEs, and the motives for those transfers, remains unknown. A Section 6(b) inquiry would enable the Commission to determine – for particular industries – the scope of the practice; the likely trajectory of the practice; and other information important for making a judgment of the competitive consequences of operating company patent transfers to PAEs.

**Third**, a Section 6(b) inquiry is appropriate because how PAE activities, and specifically patent transfers from operating companies to PAEs, impact competition, consumers and innovation raise issues that require information from operating companies and PAEs, much of which is not publicly available. For example, it is a common belief that PAEs use the threat of litigation and holdup-driven damage awards to coerce settlements even where underlying infringement claims lack merit. Because settlements prior to litigation generate little, if any, public information, existing academic research methods have been inadequate in documenting these PAE activities.<sup>99</sup> Data and other information from these stakeholders will shed light on the likely competitive consequences of the arrangement and enable the Commission to gather information from stakeholders with different perspectives on the practices at issue.

**Fourth**, Section 6(b) is an appropriate tool because the application of the antitrust laws to patent transfers to PAEs is unsettled. The precise circumstances in which such arrangements threaten anticompetitive effects are largely undeveloped in the case law. A Section 6(b) investigation accordingly is appropriate not only to enable the Commission to gather the requisite facts, but also to enable the Commission to form a judgment about the extent of the problem and, if a solution is needed, whether it lies in enforcement of the antitrust laws or in new legislation or regulation.

In short, obtaining information on the above-described subjects through a Section 6(b) inquiry will facilitate a richer understanding by the Commission of the impact of PAEs on

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<sup>98</sup> Ewing, *supra* note 9, at 8.

<sup>99</sup> Jeruss, Feldman & Walker, *supra* note 19, at 374-75 (“This leads to what we consider the greatest limitation in a study of this kind—focusing on lawsuits that are actually filed likely misses much of the action in patent monetization. Based on anecdotal evidence—albeit a mountain of such anecdotes—a vast amount of monetization activity never progresses to the point at which the patent holder actually files an infringement lawsuit. Given the costs of litigating infringement suits, the uncertainty of the outcome and the potential for outsized judgment awards, companies frequently capitulate to a patent monetizer’s demands, rather than face the ordeal of a trial. Thus, a study that focuses only on lawsuits filed misses much of the dance.”).

innovation and competition. The Commission will thereby be better situated to contribute to the dialogue on whether the solution to the many issues PAEs raise rests with legislative changes to the patent system, in influencing the shape of the patent laws through amicus efforts in the courts, or through enforcing the antitrust laws.

As for the precise shape of the Section 6(b) inquiry, we recommend that the Commission initially focus on the information technology industry. The IT industry has been a principal target of litigation by PAEs and has witnessed notable patent transfers from operating companies to PAEs. Moreover, many PAEs that have acquired patents in the IT industry are now contemplating acquiring patents in yet other areas. Thus, studying the role of PAE activities and patent outsourcing in the IT industry may provide a foundation for predicting the course of PAE activities elsewhere.

## **CONCLUSION**

PAEs impose tremendous costs on innovative industries. These costs are exacerbated by the evolving practice of operating companies employing PAE privateers as competitive weapons. The consequences of this marriage on innovation are alarming. Operating company transfers to PAEs create incentives that undermine patent peace. Transfers to PAEs threaten royalty stacking, which can raise rivals' costs and hinder competition in technology markets. The secrecy in which PAEs cloak their activities exacerbates all of these concerns and leaves the public without information needed to access the likely competitive effects of patent outsourcing practices. We therefore urge the antitrust agencies to study carefully the issue of operating company patent transfers to PAEs and recommend that a Commission inquiry under Section 6 is an appropriate vehicle for examining this issue of vital importance to the competitive health of this Country's most important industries.

Dated: April 5, 2013

Respectfully submitted,

Google Inc.  
1600 Amphitheatre Parkway  
Mountain View, CA 94043

BlackBerry  
295 Phillip Street  
Waterloo, Ontario  
Canada N2L 3W8

EarthLink, Inc.  
1375 Peachtree Street  
Atlanta, GA 30309

Red Hat, Inc.  
1801 Varsity Drive  
Raleigh, NC 27606

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**From:** Charlie Hale (b) (6)  
**Sent:** Friday, April 05, 2013 3:09 PM  
**To:** Edelman, R. David; Christopher Urmson; Gina Mariko Rosales; George Ivanov; Sarah Fisher  
**Subject:** meeting in DC on April 10th

Hi David,

Glad to hear you'll have time to meet with Chris. I'll let him speak to his schedule and Gina can help arrange a time that works best for the two of you. He'll be speaking on a panel in the Rayburn building from ~11:30 -1:30.

Also including my colleagues Sarah and George who will be supporting him while he's in town.

Thanks,  
Charlie

On Apr 5, 2013 8:56 AM, "Edelman, R. David" (b) (6) wrote:

Hi Charlie,

Sorry for the delay getting back to you! Was trying to figure out my own schedule, as I'm traveling back to SF on Thursday of next week. But it does look like I'll be here on the 10<sup>th</sup>, and would love to see Chris. I'll see if I can pull together our SDC group, but my guess is since it's out -of-band schedule-wise, we may not be able to get them together this time around.

Do you have a sense of the open windows on his schedule?

Cheers,

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Monday, April 01, 2013 2:50 PM  
**To:** Edelman, R. David  
**Subject:** head of self-driving car in DC April 10th

Hi David,

I just wanted to let you know that the head of the self-driving car project (Chris Urmson) is going to be in DC for a meeting on April 10th. If your schedule allows for it, I'm sure he'd love to either meet with you or brief your interagency committee if that would be of interest.

Take care,

Charlie

--

Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

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**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, April 05, 2013 3:35 PM  
**To:** Edelman, R. David  
**Subject:** call today?

have a time-sensitive matter. i'm on my cell (b) (6)

thanks much

--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)

---

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, April 05, 2013 4:45 PM  
**To:** Edelman, R. David  
**Subject:** Re: call today?

IPEC

On Fri, Apr 5, 2013 at 4:44 PM, Edelman, R. David (b) (6) wrote:

Okay. I'm about to go into another meeting, but will free up in about 30. Which comrades?

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Friday, April 05, 2013 4:44 PM  
**To:** Edelman, R. David  
**Subject:** Re: call today?

am still on a call with some of your comrades... will call you back shortly

On Fri, Apr 5, 2013 at 4:04 PM, Edelman, R. David (b) (6) wrote:

Just rang. Will be around this afternoon when not underground.

-rD

**From:** Johanna Shelton [mailto:(b) (6)]  
**Sent:** Friday, April 05, 2013 3:35 PM  
**To:** Edelman, R. David  
**Subject:** call today?

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Google Inc.  
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Washington, DC 20005  
(b) (6) Google Voice  
(b) (6)



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**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, April 05, 2013 5:10 PM  
**To:** Edelman, R. David  
**Subject:** Re: call today?

literally JUST got off the phone - calling u now

On Fri, Apr 5, 2013 at 5:00 PM, Edelman, R. David (b) (6) wrote:  
Good people! Okay give me a ring when done. Cya!

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, April 05, 2013 04:44 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: call today?

IPEC

On Fri, Apr 5, 2013 at 4:44 PM, Edelman, R. David (b) (6) wrote:

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**To:** Edelman, R. David  
**Subject:** Re: call today?

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-rD

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**Sent:** Friday, April 05, 2013 3:35 PM  
**To:** Edelman, R. David  
**Subject:** call today?

have a time-sensitive matter. i'm on my cell (b) (6)

thanks much

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Johanna Shelton  
Senior Policy Counsel  
Google Inc.  
1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice

(b) (6)

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**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, April 05, 2013 5:13 PM  
**To:** Edelman, R. David  
**Subject:** Re: call today?

tag - you're it! call my cel (b) (6)

On Fri, Apr 5, 2013 at 5:10 PM, Johanna Shelton (b) (6) wrote:  
literally JUST got off the phone - calling u now

On Fri, Apr 5, 2013 at 5:00 PM, Edelman, R. David (b) (6) wrote:  
Good people! Okay give me a ring when done. Cya!

-----Original Message-----

**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, April 05, 2013 04:44 PM Eastern Standard Time  
**To:** Edelman, R. David  
**Subject:** Re: call today?

IPEC

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**Subject:** call today?

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(b) (6)



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**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, April 05, 2013 7:06 PM  
**To:** Edelman, R. David  
**Subject:** Proposals re Improving Software Patent Quality and Patent Litigation Reform  
**Attachments:** Google\_Non-Legislative Proposals - Improving Software Patent Quality.pdf; Legislative Proposals - Patent Litigation Reform.pdf

two relevant documents - 1) the Coalition for Patent Fairness legislative proposals and 2) a Google brainstorm of other non-legislative ideas for the Administration.

let me know if you want to talk through them next week.

thanks much

- johanna

## Improving Software Patent Quality

The problem of low quality software patents has been widely acknowledged by industry, academia and government. The vague, overbroad and invalid software patents that have issued over the past 15 years have driven a litigation boom. Lawsuits brought by patent assertion entities (PAEs) have quadrupled since 2005 and now account for a majority of patent litigation. 85% of these cases involve software patents and many of those are vague, overbroad or obvious. Because of their low quality and unclear boundaries, software and internet patents are litigated eight times more often than others. Indeed, the rise in litigation tracks the rise in the number of software patents. The extent of this litigation boom places a real drag on the innovation economy, especially for small and medium sized companies, which are the most frequent targets.

There is no silver bullet fix for the problem of low quality software patents. Efforts by the Administration on multiple fronts is needed, and those efforts must eventually scale for the 50,000 new software patents that issue each year, nearly a quarter of all patents granted. Only then can software patents fulfill the Constitutional mandate of promoting innovation rather than deterring it.

The America Invents Act, signed into law in 2011, addressed many important issues, but left the growing patent troll and software patent quality problems largely untouched. The new Inter Partes Review procedure in the Patent Office does not allow challenges on the grounds that software patents are vague, overbroad and abstract even though many contain these flaws. The new Post-Grant Review procedure allows such challenges, but only for future patents within nine months of their issuance. The procedure is not available for already existing patents. Moreover, no software company can monitor every potentially relevant patent as it issues and bring such challenges on a pre-emptive basis. There are simply too many, and it is impossible to predict which will be the subject of a troll suit many years later.

In light of these problems, important and much needed steps to improve the quality of software patents could include:

- **Providing examiners more time to effectively search for prior art and examine software patent applications.** It has been reported that over several years of pendency, an examiner has only 18 hours to examine a given patent application. Although providing more time to perform this critical function would likely increase the fees for each application, that cost would be more than offset by the increased value to the patentee of a higher quality patent and decreased uncertainty and litigation that can harm product manufacturers and the public.

- **Providing leadership in a government/industry partnership to improve databases of software-related prior art.** A significant amount of software-related prior art does not exist in common databases of issued patents and published academic literature. Cataloging and making this prior art searchable by examiners and the public would help curtail the issuance of patents on obvious ideas, which harm innovation. Given the Administration's focus on forging partnerships with industry, IPEC could explore seeking commitments from industry leaders to support software prior art databases and other solutions.
- **Providing leadership in a government/industry partnership to standardize the terminology used in software patent applications.** Applicants often use vague or ill-defined terminology in software patent applications. When the same concept is described in different applications using different terminology, prior art searches (for examiners) and clearance searches (for innovators) are ineffectual, inconclusive, and unreliable. The U.S. Department of Commerce, through the National Institute of Standards and Technology (NIST) and the Patent Office, could explore whether the government, with input from industry, could take more active steps to help standardize software terminology used in the patent context.
- **Providing increased legal training to examiners on the application of 35 U.S.C. 112 to software patent and monitoring its enforcement.** The requirements of Section 112 (definiteness, written description, enablement) are rarely enforced in the software area. Insufficient attention to these requirements has resulted in the issuance of many vague, overbroad software and Internet patents that fuel litigation and have a chilling effect on innovation. Examiners need more training on this patentability requirement and increased supervision to ensure that it is enforced. Moreover, compliance with 112 enforcement guidelines should be factored into evaluations of examiner performance.
- **Providing and requiring increased technical training for examiners.** Innovation moves at a fast pace in the software industry and examiners need help and training to keep up-to-date with the technology. The Patent Office's Patent Examiner Technical Training Program (PETTP) relies on industry to voluntarily provide technical training courses to examiners in a hit-or-miss fashion. A more systematic and complete curriculum for technical training aimed at particular art units is needed. Through NIST and the Patent Office, the Department of Commerce could partner with academia and industry to develop and implement a comprehensive curriculum related to software technologies. The Patent Office should require examiners to attend technical training, both as part of their initial training as new examiners and at regular intervals to maintain state-of-art knowledge of software development. Compiling a video archive of training sessions would help meet those requirements.

- **Providing better assessments of software patent quality.** The Patent Office's current quality metrics assess whether appropriate procedures and best practices in examination have been followed, but they provide little information on whether patentability criteria have been rigorously enforced to result in the issuance of high quality software patents. The Patent Office should implement a program that carefully assesses how well all of the patentability requirements were enforced in a sample - for instance, 1 or 2 percent - of allowed software applications. That information should be publicly reported and errors should be used to devise better examiner training and supervision.
- **Providing more granularity into PTO's quality metrics.** The Patent Office releases periodic reports on whether procedures have been followed in the examination of a random sampling of applications. The Patent Office should report this data on a more granular level, including broken down by technology area, so that the public can better assess and provide input on examination practices for software patents.
- **Appointing a Presidential Innovation Fellow to study the linkage between increased software patent quality and innovation .** Increased resources are needed to improve the quality of software patents, but this investment would pay off by creating a patent system that promotes rather than hinders innovation in the software industry. Careful study is needed to demonstrate the linkage between patent quality in software-related technical areas and the costs imposed on the software industry by the patent system, including the high level of PAE litigation. An Innovation Fellow could also help devise transparent metrics that reflect the quality of issued software patents based on validity assessments.

### Legislative Ideas, March 2013

Title	Description
<b>Litigation Reform</b>	
SHIELD Act	Mandatory loser pays fee shifting that applies one way only against patent assertion entity. Requires PAE to post a bond at the beginning of the case.
Loser pays fee shifting, plus bond	Losing side (plaintiff or defendant) pays. "Exceptional case" in Section 285 is redefined so that fees shift unless losing side can show that its position is "substantially justified" or "exceptional circumstances" exist. Can move to have patentee post a bond if it is judgment proof.
Offer of Judgment with attorney's fees	FRCP 68 allows the defendant to make an offer of judgment. If plaintiff is awarded less, it must pay defendant's costs. By statute, require plaintiff to pay attorneys fees also if it loses or receives an award less than what was offered. Require plaintiff to post a bond if offer is made and rejected.
Discovery cost fee shifting	Each party must pay for the discovery it requests outside of "core documents."
Strengthen Rule 11	To increase the likelihood of sanctions for filing frivolous cases.
<b>Patent Quality</b>	
Expand CBM, Sec. 18	Current covered business method program under Section 18 of AIA applies only to "financial services" patents. Expand to include all business method patents.
Fix PGR Estoppel	Change Post-Grant Review estoppel from all issues that challenger "could have raised" to issues that challenger "did raise." PGR is unusable without this change and the "could have raised" language is a scrivener's error.
<b>End-Users</b>	
End-user protection through intervention and stays	To protect end-users of off-the-shelf technology, court must allow manufacturer of product or provider of service to intervene. Following intervention, court must stay cases against users of product or service.
<b>Misc. and Procedural</b>	
Prior user rights	Substantial preparation for commercial use anytime before the filing date of a patent application should be protected by a prior user rights defense, harmonizing U.S. law with foreign prior user rights.

Record assignments and RPI	Require recordation of all patent transfers at the PTO within 60 days. Real party in interest must also be recorded. Damages will not be available for any period in which the patent was not properly recorded.
Heightened pleading standard	Similar to standards for securities litigation, require patent plaintiffs to meet heightened pleading standards in complaint. Could require this to take the form of a claim chart.
Codify improved laches for damages	Change time in which laches on damages presumptively applies from 6 years to 3 years so that PAEs cannot sit on patents, allowing damages to accumulate.

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**From:** George Ivanov (b) (6)  
**Sent:** Tuesday, April 09, 2013 1:19 PM  
**To:** Edelman, R. David  
**Cc:** Johanna Shelton  
**Subject:** Expansion of Google Fiber to Austin, TX.

Hi David,

Today, we announced the expansion of the Google Fiber program to Austin, TX.

When we were originally choosing where to bring Fiber, Austin had one of the most enthusiastic responses (which you can see in [this map](#)). Their city leaders have worked hard to make this possible, and we are looking forward to seeing the benefits that this network will bring to Austin, where we plan to start connecting homes in mid-2014.

Austin provided great infrastructure and a business -friendly environment in which to deploy service. As with any deployment, policies around permitting and rights -of-way mattered, and the city leadership moved with efficiency to work with us. Of course, there's still more that federal, state, and local governments can do to make it easy for broadband providers to access existing infrastructure such as conduits and utility poles (which, according to the FCC, can amount to 20% of total buildout costs).

You can find more information in the [blog post](#) that just went live. Please let me know if you have any questions.

Sincerely,  
George

--

George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)

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**From:** Anurag Acharya (b) (6)  
**Sent:** Tuesday, April 09, 2013 3:41 PM  
**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

On Thu, Apr 4, 2013 at 9:30 AM, Anurag Acharya (b) (6) wrote:

On Thu, Apr 4, 2013 at 9:13 AM, Stebbins, Michael J. (b) (6) wrote:

Fantastic. I will discuss the dates with the group today and see what openings exist. We are juggling a number of presentations.

Hi Mike: any idea which dates would work? I will be in Toronto on 22 -23 speaking at the annual conference of library consortia, so coming over to DC would be easier that week than others.

cheers,  
anurag

How is next week looking for you?

Mornings 9am-1pm Pacific would work all days. Later in the day, 2pm -3pm Pacific would work on Monday, Tuesday, and 3-5pm Pacific on Wednesday, Thursday, Friday.

cheers,  
anurag

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Thursday, April 04, 2013 3:42 AM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles



Hi Mike: it was really good to sync up today. I would like to take you up on the offer to speak to the interagency group - to present the argument for a centralized repository and to describe our proposal in detail.

You had mentioned that the group meets on thursdays. Would April 25th Thursday work? If not, the following thursday (May 2nd)? I was initially trying to make April 18th work but we just moved from LA to Palo Alto - which makes for a long TODO list, as always....

Would be good to chat again sometime this week or next and discuss what would be good to cover in the presentation.

cheers,

anurag

On Tue, Apr 2, 2013 at 3:39 PM, Anurag Acharya (b) (6) wrote:

Sounds good. I will be a (b) (6)

anurag

On Tue, Apr 2, 2013 at 3:21 PM, Stebbins, Michael J. (b) (6) wrote:

How about tomorrow at 530pm Eastern?

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Tuesday, April 02, 2013 2:17 PM

**To:** Stebbins, Michael J.  
**Subject:** Re: repository for federally funded research articles

Hi Mike: looks like we missed each other. Should we reschedule? Any time after 10am Pacific/1pm Eastern would work for me this week. Next week, 10am-2pm Pacific would work Mon->Thurs and 10-1pm Friday.

cheers,

anurag

On Fri, Mar 29, 2013 at 12:51 PM, Anurag Acharya (b) (6) wrote:

Hi Mike: thanks for the quick response! Sorry to interrupt you on your vacation :(

Tuesday 1pm Eastern/10am Pacific would work for me. If you would prefer to call, I will be at (b) (6)  
If it would be easier for me to call, let me know the number to call.

anurag

On Fri, Mar 29, 2013 at 12:18 PM, Stebbins, Michael J. (b) (6) wrote:

Sorry. I am on vacation. How about Tuesday? I am open from 1 -3.

---

**From:** Anurag Acharya [mailto:(b) (6)]

**Sent:** Friday, March 29, 2013 02:46 PM

**To:** Stebbins, Michael J.

**Subject:** Re: repository for federally funded research articles

Hi Mike: just checking in to see if we are on for talking some time next week.

cheers,

anurag

On Tue, Mar 26, 2013 at 12:46 PM, Anurag Acharya (b) (6) wrote:

Sure. Mon/Tues/Thurs/Fri morning Pacific would work for me next week. If none of these work for you, let me know some times that would.

cheers,

anurag

On Fri, Mar 22, 2013 at 3:38 PM, Stebbins, Michael J. (b) (6) wrote:

Thanks Anurag,

Do you have time to talk again on the week of April 1<sup>st</sup>?

Best,

Mike

**From:** Anurag Acharya [mailto:(b) (6)]  
**Sent:** Friday, March 15, 2013 9:47 PM  
**To:** Stebbins, Michael J.  
**Subject:** repository for federally funded research articles

Hi Mike: congratulations on the new OSTP policy on increasing public access to research articles funded by federal agencies!

One of the key issues for the success of the policy will be whether these articles are included in a publicly available repository. In addition to ensuring a consistent access mechanism for all users, inclusion in a repository would also help ensure archival access and long-term stewardship.

As the lead for Google Scholar, I have worked with publishers and libraries worldwide. I have also worked with most federal agencies and depts for indexing their existing collections of research articles. Based on my experience, I would like to share recommendations/proposals regarding repositories for federally funded research articles.

I am hoping this is of interest. I would be happy to visit or join a conversation.

cheers,

anurag



**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Friday, April 05, 2013 3:09 PM  
**To:** Edelman, R. David; Christopher Urmson; Gina Mariko Rosales; George Ivanov; Sarah Fisher  
**Subject:** meeting in DC on April 10th

Hi David,

Glad to hear you'll have time to meet with Chris. I'll let him speak to his schedule and Gina can help arrange a time that works best for the two of you. He'll be speaking on a panel in the Rayburn building from ~11:30 -1:30.

Also including my colleagues Sarah and George who will be supporting him while he's in town.

Thanks,  
Charlie

On Apr 5, 2013 8:56 AM, "Edelman, R. David" (b) (6) wrote:

Hi Charlie,

Sorry for the delay getting back to you! Was trying to figure out my own schedule, as I'm traveling back to SF on Thursday of next week. But it does look like I'll be here on the 10<sup>th</sup>, and would love to see Chris. I'll see if I can pull together our SDC group, but my guess is since it's out -of-band schedule-wise, we may not be able to get them together this time around.

Do you have a sense of the open windows on his schedule?

Cheers,

-rD

**From:** Charlie Hale [mailto:(b) (6)]  
**Sent:** Monday, April 01, 2013 2:50 PM  
**To:** Edelman, R. David  
**Subject:** head of self-driving car in DC April 10th

Hi David,

I just wanted to let you know that the head of the self-driving car project (Chris Urmson) is going to be in DC for a meeting on April 10th. If your schedule allows for it, I'm sure he'd love to either meet with you or brief your interagency committee if that would be of interest.

Take care,

Charlie

--

Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

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Charlie Hale | Google Public Policy (b) (6)

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**From:** George Ivanov (b) (6)  
**Sent:** Monday, April 15, 2013 6:25 PM  
**To:** Stebbins, Michael J.  
**Cc:** Anurag Acharya  
**Subject:** Interagency Meetings on Implementation of Open Access Memorandum

Hi Mike,

I hope you had a good weekend. We wanted to catch up with you on the logistical details for the upcoming interagency meetings on implementing the open access memorandum. It would be helpful if you could send us the specific dates, times, locations, clearance considerations, tentative agendas, and agency stakeholders expected to be in the room - to effectively coordinate our availability and prepare accordingly.

Thank you for your help.

Sincerely,  
George

--  
George Ivanov  
Policy Analyst | Google Inc.  
1101 New York Ave NW  
Washington, DC 20005

(b) (6) (b) (6)



---

**From:** Big Tent D.C. (b) (6)  
**Sent:** Tuesday, April 16, 2013 4:14 PM  
**To:** Edelman, R. David  
**Subject:** Google & Bloomberg invite you to Big Tent D.C.



## Can Free Speech Survive in the Digital Age?

On the eve of Washington's annual celebration of America's press, join leaders from government, the media, business and the arts to discuss the future of free expression. At a time when too many governments deny their citizens the right to dissent, we'll ask if the Internet is reaching its promise of empowering people here at home and around the world.

Speakers include:

**Eric Schmidt**  
Executive Chairman  
Google

**Norman Pearlstine**  
Chief Content Officer  
Bloomberg

**Friday, April 26, 2013**

Registration: 1:00 PM  
Big Tent: 1:30 – 6:00 PM  
Reception: 6:00 – 8:30 PM

Add to  
Google Calendar

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**The W Hotel**

515 15th Street  
(Entrance on F Street)  
Washington, D.C. 20001

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**Alberto Gonzales**  
former United States Attorney  
General

**Jane Holl Lute**  
Deputy Secretary  
Department of Homeland Security

**Bill Keller**  
former Executive Editor  
The New York Times

**Mark Whitaker**  
former Executive Vice President  
CNN Worldwide

**Omar Hussein**  
Saudi Arabian comedian  
and YouTube star  
and others

Full agenda to follow

**Please RSVP here**

Please email any questions to  
(b) (6).

Google | Bloomberg

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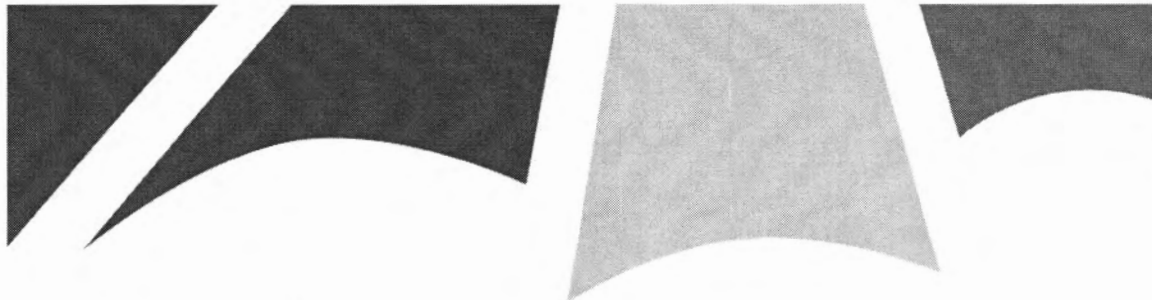
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**From:** Johanna Shelton (b) (6)  
**Sent:** Friday, April 19, 2013 11:16 AM  
**To:** Edelman, R. David  
**Subject:** Google & Bloomberg invite you to Big Tent D.C.

are you joining us next Friday? Eric Schmidt and David Drummond will make appearances, as well as Kevin Spacey and some really cool speakers - this is tailor made for you - i hope to see you there! :)



## big tent

# Can Free Speech Survive in the Digital Age?

Join leaders of the media, business and the arts to discuss the future of free expression on the eve of the annual celebration of America's press. At a time when too many governments deny their citizens access to voices of dissent and opposition, we'll ask if the Internet is reaching its promise of empowering people here at home and around the world. Topics will include how best to promote free speech while protecting cultural sensitivities, national security and the right to information.

**Friday, April 26, 2013**

Registration: 1:00 PM

Big Tent: 1:30 – 6:00 PM

Reception: 6:00 – 9:00 PM

Add to  
Google Calendar

**The W Hotel**

515 15th Street

(Entrance on F Street)

Washington, D.C. 20001

Full agenda to follow

**Please RSVP here**

Please email any questions to

(b) (6)

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--

Johanna Shelton  
Senior Policy Counsel  
Google Inc.

1101 New York Ave NW, 2nd Fl  
Washington, DC 20005

(b) (6) Google Voice

(b) (6)

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**From:** Patrick Ryan (b) (6)  
**Sent:** Monday, April 22, 2013 5:46 PM  
**To:** Disselkoen, Robyn L  
**Cc:** Franz, Liesyl I; US Andrew Reynolds (b) (6) Edelman, R. David; Sarah Falvey; Andrew R Harris; Manu Bhardwaj; Bouvier, Seth E  
**Subject:** IGF Funding  
**Attachments:** Tides Proposal to Secretariat of the IGF 02252013.pdf

Dear Robyn,

Thank you all for the call today to discuss funding at the IGF. Here's the scenario:

**The overall need:**

- The IGF currently runs with only one full-time employee (other part-time contract employees are brought on to support).
- The IGF's budget needs are between \$3m and \$5m (we don't have the full budget details in spite of several requests), but we know that the IGF has raised only \$900k from governments and the private sector.
- Previous funding information and details on how to fund are now online here: <http://www.intgovforum.org/cms/funding>
- Any entity that funds the IGF does so through UNDESA, and must sign a contract with UNDESA. Depending on the changes required the contracting process does not scale and can take as much as 6-9 months to finalize.

**The Tides proposal:**

- We found a non-profit called Tides ([www.tides.org](http://www.tides.org)) that handles funding requests of this kind. The Tides proposal is attached.
- The Tides proposal would have the benefit of being able to collect funds through a pool (even with credit-card donations) which is not currently possible, greatly expanding the pool of available donors.
- Any donor that wants to go through the traditional contracting process with UNDESA can still do that if they wish.
- In January we met with Tides to produce the attached proposal and in February we brought it to the IGF and the MAG donors (the MAG is the advisory group to the IGF), together with the UNDESA representative. We received general approval from ICC BASIS to pursue it with UNDESA on behalf of the business community.
- We believe that working with ICC BASIS is key, we believe, so that this doesn't become a "Google" deal and so that it has broader support by the business community.
- We help set up introductory meetings between the Tides representative and the UNDESA rep (Slava).
- UNDESA has initially tried to encourage Tides to take a circuitous route, suggesting some way of doing the donation through other agencies, perhaps not even with a contract ----we're frankly not sure what they were suggesting, but it took a couple weeks to work through it. As a matter of principle, the donors are going to require an above-board, transparent contract.
- We don't yet have an attorney assigned from UNDESA, but we did get a Word copy of the contract for negotiation, which is a small, but important step.

- Tides has made some suggested changes and has suggested that they would get back to us by the end of the month.

#### **Timing:**

- Our goal is to put an agreement in place (at least in principle) by May 18th that can shop it with people in Geneva at the next IGF MAG, make sure the community agrees, and solicit commitments to fund it.
- We think that the request to put it together by May 18th is more than reasonable since the funding issues are acute and it will be almost 3 months from when the proposal was first circulated.

#### **Our ask:**

- In our experience, getting an attorney assigned from the UN pool is a key step here, and because of resource constraints (all UN agencies use a common pool of lawyers), prioritization and visibility within the UN is key, and USG can help with that.
- A well-placed and well-timed call or note from somebody at USG to UN could be as simple as a note to a contact with UNDESA or the SG's office to say something along the lines of "We understand that the business community is working with UNDESA on a proposed arrangement with a non-profit foundation to help fund the IGF. This is an important initiative and we would be grateful for any assistance your office can put on making sure the appropriate resources are assigned."

#### **Rationale and alternatives:**

- We'll continue to work the process, but are concerned that timing will push the finalization to sometime in the summer, which would make it too late for deployment for this year.
- We are fearful that lack of funding will inspire some to force the IGF to either get dissolved or folded into other initiatives, for example, something like the WSIS Forum (which is hosted by the ITU). The multistakeholder commitment is less clear in these other fora.
- We also note that the Indonesian hosts have set up a parallel fundraising initiative for the IGF (to cover in-country costs) and are asking for \$2m in donations, increasing the overall fundraising needs this year to about \$3m, and no clear, scalable path to do so.

Thank you again for your time today and please let me know if there are any follow-up questions.

Sincerely,

Patrick

-----  
patrick ryan

public policy & gov't relations counsel, free expression and int'l relations

(b) (6) | (b) (6)

# Proposal to Internet Governance Forum:

## Infrastructure to Facilitate Funding

Prepared for: Patrick Ryan, for sharing with the IGF Secretariat, the IGF MAG, UN DESA, ICC BASIS

Prepared by: Brad Luckhardt, Director of Business Development, Tides

Date: February 25, 2013

## Introduction

Tides has been asked to provide a proposal for services to facilitate donations from various stakeholders in the Internet Governance Forum. In this initial proposal we provide background on our organization and an outline of services that we could offer to the IGF.

## Our Organizational Overview

Tides is a values-based, social change platform that leverages individual and institutional leadership and investment to positively impact local and global communities. Since 1976, Tides has worked with over 15,000 individuals and organizations, including foundations, donors, corporations, social investors, nonprofits, government institutions, and activists. Tides focus is on advancing three areas of social change: environment, education, and equity.

Tides celebrated its 35th anniversary on June 4, 2011. Originally founded to facilitate progressive philanthropic giving, Tides has since expanded to support the nonprofit and social change sector through fiscal sponsorship, impact investing, and the development of multi-tenant nonprofit centers. Tides has granted over \$1 billion dollars, leads the nation in fiscal sponsorship with over 150 nonprofits, saved nonprofits over \$13 million in rent through development of shared spaces, and engages 3,000 cross-sector professionals in the NonprofitCenters Network. Tides Foundation is a duly registered public charity, exempt from Federal income taxation under Sections 501(c)(3) and 509(a)(1) of the Internal Revenue Code. The charitable and educational purposes of the Foundation are to promote innovative philanthropic activity, nationally and internationally.

Tides is a global organization. Of our 150+ fiscally sponsored projects, about 20% have operations outside of the United States. Between 2008 and 2012, Tides' funds made grants of more than \$540 million, including approximately \$113 million (21%) to non U.S. organizations. Of that grantmaking, the top 5 issue areas were Human Rights, HIV/AIDS, Education, Women's Empowerment, and International Development.

Issue Area	2008	2009	2010	2011	2012	Grand Total
Human Rights	3,721,604	3,079,390	3,512,316	3,811,604	778,118	16,441,724
HIV/AIDS	2,923,176	1,914,836	2,829,391	3,161,099	3,556,021	14,402,077
Education	508,753	596,628	7,195,418	2,645,949	892,240	12,089,487
Women's Empowerment	2,459,675	2,814,649	1,683,633	943,033	1,645,914	10,385,834
International Development	1,711,670	429,656	1,244,628	2,181,337	1,800,582	7,628,303

One example of work that is powered by Tides infrastructure and services is the International Treatment and Preparedness Coalition (ITPC). Through a Tides grantmaking fund and fiscally sponsored project, ITPC provides grants to community-based organizations for HIV treatment projects as well as support for regional networks to share information, implement collaborative strategies, and provide technical assistance to grantees.

With support from dozens of private foundations, government funders, and corporations the ITPC Fund has granted more than \$9 million in small grants from 2004 to 2010 to support approximately 700 HIV treatment education and advocacy projects in nearly 70 countries.

## **Infrastructure and Services for IGF**

The IGF is funded by a small number of governments, the private sector, and NGOs. The donor community has pointed out that the contracting process with the UN in order to provide a donation can be quite time-consuming, resulting in a small group of funders. The purpose of this proposal is to provide an overview of how Tides' infrastructure and services could provide a solution for facilitating funding for the IGF, making it simpler for donors to provide support without requiring that each donor enter into a direct contractual relationship with the United Nations. We are excited about the opportunity to support the IGF, the only truly general multi-stakeholder forum that convenes stakeholders from around the globe to discuss the future of the Internet.

### **Transparency**

As an underlying issue, we understand that transparency is one of the core values of the IGF, and we are able to provide our services in an open and transparent way such that all donors through Tides can be disclosed to the IGF and other UN agencies in a way that embraces the IGF's openness.

### **Grantmaking infrastructure: Single Entity Fund**

One common option that Tides could promote would be the establishment of a "Single Entity Fund," which would be a vehicle for donations. Features of the Single Entity Fund include:

- Accepts tax-deductible donations from multiple donors including donations from individuals and grants from foundations, corporations, and/or government agencies
- Issues invoices and receipts for all donations to meet bookkeeping requirements of donors.
- Due diligence of IGF as the grantee
- Draft and send grant award letters
- Make grant payments
- Manage expenditure responsibility over funds granted to IGF
- Online access to fund for making grant recommendations and checking fund balance and activity
- Quarterly statements with fund's activity
- Enter into Contractual Relationship with IGF/United Nations DESA as required for funders

### **Supplemental Services:**

- Page on Tides website describing IGF and providing a link for online donations
- In partnership with IGF, identify and manage relationship with online donation service provider
- Facilitation of donations (through the website) by individuals or companies that may want to pay with credit card.



## **Fees**

The administrative fees for fund administration would be between 3-5% of contributions made into the fund. Fees would depend on the following criteria:

- **Funding** - Anticipated funding amounts and their reporting requirements
- **Risk** -Type of activities, constituencies served, political circumstances, liabilities
- **Transaction volume** – Anticipated number of donors and annual grants to IGF
- **Transaction complexity** – Status of entity that is designated as grantee

In addition to administrative fees, Tides would pass through the fees from a third party online donation service provider. These fees vary by provider and are based on the features of their respective platforms. One example to provide some context is Network for Good, which charges \$49.95/month plus 3% of each donation for its basic service. See: <http://www1.networkforgood.org/>.

A detailed scope of work and fee structure will be drafted for your review after we have had an opportunity to do a full needs assessment.

## **Next Steps**

- > Review and discussion of proposal > Needs assessment > Finalize scope of work and fee proposal
- > Final contract > Set up and launch

---

**From:** Jacqueline Fuller (b) (6)  
**Sent:** Monday, April 22, 2013 11:11 PM  
**To:** Greenblatt, Jonathan  
**Cc:** Kalil, Thomas A.; Garg, Kumar (b) (6) Levy, Noemie; FN-WHO-Innovation  
**Subject:** Re: Fw: Remarks by the President at the 2013 White House Science Fair

Great news. Glad to see this moving. We continue to be interested in CS specific approach.

On Mon, Apr 22, 2013 at 8:04 PM, Greenblatt, Jonathan (b) (6) wrote:  
Jacqueline,

Hi there. I hope all is well. I wanted to make sure that you saw the news today as President Obama announced STEM Americorps at the White House Science Fair.

This is just the first step, but as you can see in the email and transcript below, the focus on STEM AmeriCorps at the top of the program reflects the strong interest of the President.

Hope we can find a way to engage with Google.org on the next phase.

Best,

Jonathan

Jonathan Greenblatt  
Social Innovation & Civic Participation  
The White House  
O (b) (6)

---

**From:** Greenblatt, Jonathan  
**Sent:** Monday, April 22, 2013 04:12 PM  
**To:** Greenblatt, Jonathan  
**Subject:** FW: Remarks by the President at the 2013 White House Science Fair

Hey everyone. I trust this finds you well. I am pleased to share some news.

Earlier today, President announced the new STEM AmeriCorps program at the 2013 White House Science Fair in the East Room. The day featured a series of exciting announcements related to how the Administration is supporting STEM education and careers, but the President chose to make STEM AmeriCorps the first item that he highlighted in his remarks. See text below in yellow.

STEM AmeriCorps is an exciting new program that builds on the emerging model of using public-private partnerships to scale national service. As a first step in this program, CNCS will place 50 AmeriCorps VISTA members across the country to build the capacity of US FIRST, a nonprofit organization that sponsors robotics competitions and other tech challenges for high school students to boost STEM education. As a result of support from the AmeriCorps VISTA members, FIRST will be able to connect more low-income children with

FIRST's exciting competitions. More detail about STEM AmeriCorps is available here and more detail will be available soon.

Its worth noting that this program has been enabled as the result of a tremendous effort from the Corporation of National and Community Service (CNCS) working in close collaboration with the Office of Science and Technology Policy (OSTP). Thanks to everyone from OSTP and CNCS who helped to make this happen. Its an important day for national service and a really great day for the country.

Best,

Jonathan

---

**From:** White House Press Office [mailto:(b) (6)]  
**Sent:** Monday, April 22, 2013 3:17 PM  
**To:** Greenblatt, Jonathan  
**Subject:** Remarks by the President at the 2013 White House Science Fair

THE WHITE HOUSE  
Office of the Press Secretary

---

For Immediate Release

April 22, 2013

REMARKS BY THE PRESIDENT  
AT THE 2013 WHITE HOUSE SCIENCE FAIR

East Room

2:21 P.M. EDT

THE PRESIDENT: Thank you, everybody. (Applause.) Please have a seat. Have a seat. Well, good afternoon, everybody. And welcome to the White House Science Fair, one of my favorite events during the course of the year.

And I just had a chance to see some of the outstanding exhibits that have been put forward by some of these amazing young people. And let me just start by saying, in my official capacity as President: This stuff is really cool. (Laughter.) And I want to thank these incredible young people for explaining to me what the heck is going on. (Laughter.)

Every one of you is enormously talented, obviously, but there's also a community of people who helped all these young people succeed -- dedicated teachers who believed in them and challenged them to do even more; all of them have loving parents and mentors and family. So I want to not only give the young people a big round of applause, but all the parents and teachers and principals and everybody who was involved, give yourselves a big round of applause as well. (Applause.)

Of course, primarily we're here to celebrate these young scientists and visionaries who dream, and create, and innovate; who ask the question, why not? Why not try something better? Something that's faster; something that helps more people. And that drive, that refusal to give up, that focus on the future is part of what makes America great. And all of you are participants in this long line of inventors and creators that have made this the most dynamic economy and the most dynamic country on Earth.

And that's one of the things that I've been focused on as President is how do we create an all-hands-on-deck approach to science, technology, engineering, and math. And I'm happy to have so many key members of my science team who are here today, including my Chief Science Advisor, John Holdren, who is here. There's John. NIH Director Francis Collins. There's Francis right there, the tall guy. We've got Acting Director of the National Science Foundation, Cora Marrett, who is here. There's Cora. And we've got real-life astronaut and NASA Administrator, Charles Bolden. Where's Charlie? There he is, right there.

So we need to make this a priority to train an army of new teachers in these subject areas, and to make sure that all of us as a country are

lifting up these subjects for the respect that they deserve. And one of the things that I'm concerned about is that, as a culture, we're great consumers of technology, but we're not always properly respecting the people who are in the labs and behind the scenes creating the stuff that we now take for granted. And we've got to give the millions of Americans who work in science and technology not only the kind of respect they deserve but also new ways to engage young people.

So today, I'm proud to announce a new AmeriCorps program that are going to -- (applause) -- that's our Community Service Director. (Laughter.) She is a little bit biased, but I like that in her. She's got that kind of get-up-and-go. A new AmeriCorps program that's going to connect more professional scientists and engineers to young students who might follow in their footsteps. And other people are stepping up, too.

Some of America's biggest tech companies are encouraging their workers to mentor young students. You've got media organizations that are working with athletes like outstanding wide receiver Victor Cruz from the New York Giants, who's here to highlight how critical math and science are to sports. (Applause.) And, by the way, since Victor is here, I don't know -- did you see the exhibit about the whole cooling shoulder pads and helmet that these young guys did? And they had a whole slogan that said you can succeed in athletics and science. They were very impressive. Had the little Gatorade so you -- (laughter) -- you didn't even have to, like, reach for your Gatorade; you could just -- it would automatically transmit itself into your helmet. (Laughter.) It could work.

We've got non-profits that are helping to organize 1,000 summer learning events this year. They all realize how important science, technology, engineering, and math are to our future. So we are doing this together.

And, after all, the science fair projects of today could become the products and businesses of tomorrow. Three students -- Evan Jackson, Alec Jackson, and Caleb Robinson -- those are the folks that I talked about. They're from Flippen Elementary School. Keep in mind, they're in third, fourth grade, and they've already got this idea for COOL Pads so that Victor doesn't get overheated when he's out on the field. But think about that. If you're inventing stuff in the third grade, what are you going to do by the time you get to college? (Laughter.)

And we just had the University of Alabama's national championship football team here last week, and I know they're interested in this idea because it gets really hot down in Alabama.

A lot of these students are working on the next generation of medical research. So listen to this story. When pancreatic cancer took the life of Jack Andraka's close family friend, it inspired Jack to look for new ways to improve detection. So Jack requested space from research labs to pursue his work -- nearly 200 times. Two hundred times he asked. Two hundred times he was turned down. Finally, with the help of some folks at Johns Hopkins, he got the research facilities that he needed, developed a pancreatic cancer test that is faster, cheaper and more sensitive than the test that came before it -- which is not bad for a guy who is just barely old enough to drive. So where's Jack? There he is. Jack, stand up, because that's pretty spectacular stuff. (Applause.) That's great work. I don't know what you guys were doing when you were juniors in high school. (Laughter.) That's what Jack is doing. (Laughter.) Better than I was doing, I promise you. (Laughter.)

Now, today is not just the third White House Science Fair. It's also the 43rd Earth Day. So I want to give a special shout-out to all of the young people who participated, who focused their attention on how to harness cleaner forms of energy and how to create more energy efficiency. So we've got young people like Caleb Meyer -- where's Caleb? Caleb is way back there. Stand up, Caleb, so we can see you. (Applause.) Caleb built a wind turbine that's small and fast enough to be installed on your roof or in your front yard.

We've got Jon Kubricki and Bridget Zarych, who, together with their classmates, designed an inexpensive press that can recycle garbage like banana peels into briquettes as an alternative to using wood for fuel. They're in eighth grade. I don't know what you were doing in eighth grade. (Laughter.) That's what they're doing -- which could potentially help to reduce carbon emissions, save trees and deforestation, and reduce the amount of smoke inhalation that has an impact on people.

We've got Sara Volz, who is breeding new types of algae. Where's Sara? There's Sara. (Applause.) Sara is breeding new types of algae. She stores this in a lab in her bedroom. (Laughter.) So, Sara, you have very supportive parents. (Laughter.) One reporter asked her, "Exactly what is growing under your bed that's going to save the planet?" (Laughter.) And Sara's answer was algae that can produce more oil for cheaper biofuels. So, by the way, Jon Kubricki and Bridget

Zarych, I didn't have them stand up. I want to acknowledge them. I saw them. Maybe they're still cleaning their hands off. (Applause.) But there they are. There they are.

So I've got to say, young people like these, every one of them have these kinds of incredible innovations. Some of them are already fully operational. Some of them are getting fine-tuned. But young people like these have to make you hopeful about the future of our country. And it's also a reminder for us -- the adults -- we've got to do our part. We've got to do everything we can to make sure that we are giving these young people opportunity to pursue their studies and discover new ways of doing things. And we've got to make sure that we're also leaving behind a world that is safer and cleaner and healthier than the one we found. That's our obligation.

And that's why, over the last four years, we've made historic investments in the clean energy future that we need. And today we import less oil than we have in 20 years. Thanks to new fuel economy standards, by the middle of the next decade, cars will go twice as far on a gallon of gas. We've doubled the amount of renewable energy that we're generating from sources like wind and solar -- and, by the way, creating tens of thousands of good, American jobs in the process. We're emitting less carbon pollution into the environment than we have in nearly 20 years.

But we understand this is not enough. We've got to do better. And that's why we've got to pursue an all-of-the-above energy strategy that includes investing in more biofuels and more fuel-efficient vehicles, and more solar power and more wind power, and more people going back to work building cars and homes and businesses that are more energy efficient than the ones that we've got right now.

And that's why I've proposed new job-creating investments in science and innovation. And all these young people, as young as they are, they're all going to be going to college, and a lot of them are going to want to continue to pursue their research and pursue their dreams. And if there is not the research grant pipeline in place, many of them will not have the resources to invent and discover the things that will make us healthier and make us more energy efficient and improve the quality of our lives.

So this is not the time to gut investments that keep our businesses on the cutting edge, that keep our economy humming, that improve the quality of our lives. This is the time to reach a level of research and development that we haven't seen since the height of the Space Race. That's what we should be doing. That's what we should be focused on. (Applause.)

And that should not be a partisan idea. America has always been about discovery, and invention, and engineering, and science and evidence. That's who we are. That's in our DNA. That's how this country became the greatest economic power in the history of the world. That's how we're able to provide so many contributions to people all around the world with our scientific and medical and technological discoveries.

And that's what these young people here are all about. And if extraordinary young people like all of you can use your talents to shape the future for our families and our communities and our countries, we've got a responsibility to make sure that they've got the tools to do it.

So I want to thank all the Science Fair winners not only for the work that you guys are doing, but also the example that you're setting for your peers and also for your adults -- the adults in your lives. We could not be prouder of you. And I want you to keep up your incredible work.

And part of the reason that we're doing this here -- we celebrate our great football players like Victor, and we celebrate outstanding musicians, and that's all appropriate. But we've got to make sure that we're also celebrating every single day in our schools, in our classrooms, and in our country the outstanding contributions that scientists and engineers and mathematicians and engineers are providing to us every single day. And we want you to know that you've got a whole country behind you as you pursue your dreams. And your success is going to be our success, as well. So way to go.

Thank you. Appreciate it, everybody. Thank you very much. (Applause.)

EDT

END

2:35 P.M.



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Jacquelline Fuller	Director Google Giving	(b) (6)		(b) (6)
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**From:** Big Tent D.C. (b) (6)  
**Sent:** Tuesday, April 23, 2013 1:55 PM  
**To:** Edelman, R. David  
**Subject:** Big Tent D.C. Agenda Released



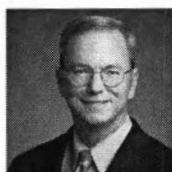
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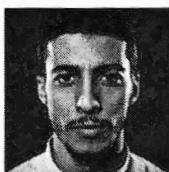
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(b) (6)

**Friday, April 26, 2013**

Doors open at 1:00 pm  
Program begins at 1:30 pm  
Reception starts at 6:00 pm

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**From:** Anna Patterson (b) (6)  
**Sent:** Thursday, April 25, 2013 4:26 PM  
**To:** Saul Griffith  
**Cc:** Austen Heinz; Will Patrick (b) (6); Andras Forgacs; Shawn Douglas;  
Prashant K. Jain; Peter Diamandis; Steve Jurvetson (b) (6); Ehsan Afshari;  
Mir Imran; Catteruccia, Dr Flaminia; Padmasree Warrior (pwarrior); Chase, Charles;  
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Karishma Shah; Cady Coleman; Natalie Jeremijenko (b) (6);  
Wael Ghonim; Bill Gross (b) (6); Black, Keith, L., M.D.; Regina Dugan;  
Cathy Zoi; Yoky Matsuoka; Hermann Hauser; Rob Nail; Sergey Brin;  
(b) (6); Megan Smith; Obi Felten; Astro Teller; Kathy Cooper; Will  
Patrick; Rodney Brooks; Omri Drory  
**Subject:** Re: Austen + Omri = Glowing Plants-----Re: SFX Class of 2013: Thanks for  
everything

I am so happy that you already reached your goal. Congrats!

I and my family are looking forward to it.

-Anna

On Tue, Apr 23, 2013 at 5:58 PM, Saul Griffith (b) (6) wrote:  
I want Gfp sheep to make glow in dark wool rugs to save on lighting bills.

Saul Griffith

Typed slowly with big fingers on my tiny iPhone

On Apr 23, 2013, at 5:02 PM, Austen Heinz (b) (6) wrote:

\*\*\*Hope everyone is doing well!

Today Omri Drory (Solve for X Class of 2012) and I launched our first collaboration. We're making Glowing Plants. It's the first synthetic biology project ever launched on Kickstarter and is apart of our longterm goal is to make designer organisms a consumer product.

<http://www.kickstarter.com/projects/antonyevans/glowing-plants-natural-lighting-with-no-electricit>

It's amazing that we live in a world where we get to make crazy sounding ideas real. Thanks for your support & more moonshots!

Thanks,

Austen

<https://angel.co/cambrian-genomics>

On Mon, Feb 11, 2013 at 3:39 PM, Will Patrick (b) (6) wrote:  
SfX Class of 2013:

What an amazing three days. Thank you so much for joining us and being a part of our community. I feel very lucky to spend a portion of my day job helping to put this group together. As a young person, I feel awed by your intelligence & passion and inspired to do ever bigger and crazier things. Thank you for that!

A few things I wanted to share with you.

1. We announced the 2013 event and our new website ([www.solveforx.com](http://www.solveforx.com)) & partnerships this morning on the official Google [blog](#) (which includes the 'moonshot thinking' video).
2. We literally just pushed (most) of the talks public. Here are the links:
  - o [Astro & Megan](#) open Solve for X [will be [here](#)]
  - o [Peter & Eric](#) on asteroid mining
  - o [Eric's](#) introduction
  - o [Rodney](#) on american manufacturing
  - o [Shawn](#) on Targeted Therapeutics
  - o [Charles](#) on compact fusion
  - o [Danielle](#) on economical energy storage
  - o [Andras](#) on sustainable, scalable meat
  - o [Keith](#) on Alzheimer's diagnostics
  - o [Sergey](#) on taking moonshots & the value of failing
  - o [Geena](#) on gender inequality in media
  - o [Austen](#) on democratizing creation
  - o [Flaminia](#) on malaria eradication
  - o [Prashant](#) on optical computing
  - o [Bill](#) on solar cheaper than natural gas
  - o [Saul](#) on inflatable robotics
  - o [Molly](#) on replacing plastic
  - o [Ehsan](#) on low-cost terahertz
  - o [Jeff](#) on municipal waste to energy
  - o [Natalie](#) on xDrones
  - o [Steve Jurvetson](#) on the tech-accelerated rich poor gap [will be [here](#)]
3. We've started getting some press coverage ([TechCrunch](#), [Verge](#), [Mashable](#)). We'd love your help with creating more buzz buzz buzz. For social media, try using #solveforx. If your company / organization would like to do any press, feel free to utilize the blog post as a starting point. I can also put you in touch with our comms team here at Google[x].
4. Check out Astro's [op-ed](#) in Wired.
5. We're looking for feedback! We'll send out a feedback form in the next couple days.

6. We're already searching for the next batch of moonshots for SfX 2014. What did we miss? Who should we be talking to? What moonshot idea should be represented on our stage?

Finally, the biggest outcomes of SfX 2012 came from the relationships created at the event ... I expect this year to be no different. Everyone who attended is on this email; don't be a stranger! Reach out to your fellow participants and continue the dialogue. Of course, you're more than welcome to reach out to me and anyone else on the Google[x] team (see cc'd list) for any reason.

Talk soon!

Cheers,

Will (on behalf of Astro, Megan and the rest of the SfX crew)