

President's Council of Advisors on Science and Technology (PCAST)

FOURTEENTH MEETING

November 2, 2011

MINUTES Washington DC

Members Present: John P. Holdren (Co-Chair), Eric Lander (Co-Chair), William Press (Vice Chair), Maxine Savitz (Vice Chair), Rosina Bierbaum, Christine Cassel, Chris Chyba, S. James Gates Jr., Mark Gorenberg, Shirley Ann Jackson, Richard C. Levin, Chad Mirkin, Mario Molina, Ernest J. Moniz, Craig Mundie, Ed Penhoet, Barbara Schaal, Daniel Schrag, David E. Shaw

Members Absent: Eric Schmidt, Ahmed Zewail

Staff: Danielle Evers, Amber Hartman Scholz, Deborah Stine

Public Attendance: Approximately 60 observers attended.

Video Webcast Archive: The archive of the video webcast is available at www.whitehouse.gov/ostp/pcast.

The President's Council of Advisors on Science and Technology (PCAST) convened in open session at 10:00 am with Dr. John Holdren and Dr. Eric Lander presiding on Wednesday, November 2, 2011.

Agenda Item 1: Welcome from PCAST Co-Chairs

Dr. Holdren briefly spoke about PCAST's productivity. He also made remarks as to how best to preserve the federal government's support for science, technology and innovation, so it can work toward the Obama Administration's goal to build the future of the country.

Agenda Item 2: Overview of the National Research Council Report (NRC) "Wireless Technology Prospects and Policy Options"

Dr. Holdren introduced David Liddle, who chaired the NRC report entitled "Wireless Technology Prospects and Policy Options." Dr. Liddle spoke about the current wireless policy framework and noted problems that would arise due to centrally-managed allocation and assignment, and the inability of the old system to accommodate today's evolved technologies. He introduced the goals of a new spectrum policy perspective, including making the effective supply of spectrum plentiful, providing inexpensive ways to experiment, and finding a middle ground between the two positions of an absolute veto on existing spectrum uses and making all spectrum unlicensed. He outlined several

policy options including making spectrum at 20 to 100 GHz open by default, using new approaches to tolerate interference, providing more adaptive spectrum management, and regulating the quality of receivers and networks of receivers, as opposed to regulating transmitters.

PCAST members asked questions about how the rate of innovation was creating new problems as well as solving them, and developing policy options for federal spectrum.

Agenda Item 3: Overview of the American Chemical Society (ACS) Report “Innovation, Chemistry, and Jobs Meeting the Challenges of Tomorrow”

Dr. Holdren introduced George Whitesides, Joseph Francisco, and Madeleine Jacobs from the American Chemistry Society (ACS). Dr. Francisco began by describing ACS and its mission and the state of the chemistry industry. Dr. Whitesides then described the role of the ACS task force and introduced four recommendations from their report. First, the report recommended the creation of a type of organization for new graduates with business ideas to connect with experienced entrepreneurs. Second, the report indicated that there should be more incentives for businesses to invest in innovation and provide the financial capability for spurring entrepreneurship. For example, American firms hold a large amount of funding offshore due to tax regulations. The report recommended that tax policy be reformed to bring that money back to the U.S. to invest in start-ups or activities that lead to new jobs and new technologies. This would enable large companies to work with small companies. Additionally, the report suggests that regularizing the R&D tax credit could also be extremely important. Third, the report addressed the university system’s capability of producing a STEM workforce. It suggested that universities might want to look into their current Ph.D. system and see if it is best suited for addressing the workforce needs of the country. Dr. Francisco next spoke about the progress of ACS toward the creation of an Entrepreneur Center.

PCAST members asked questions about what could be done at the federal agency level to encourage entrepreneurship, whether analysis had been done as to the risk-reward factor of investing in science and technology entrepreneurship, how universities have changed in their support of innovation, and the potential of R&D tax credits to incentivize innovation in small companies.

Agenda Item 4: Update on Implementation of PCAST Nanotechnology Report Recommendations

Dr. Savitz introduced the National Nanotechnology Initiative (NNI) topic and the panel of speakers: Lew Slotter of the Department of Defense, Mihail Roco of the National Science Foundation, Carlos Pena of the Food and Drug Administration, and Sally Tinkle of the National Nanotechnology Coordination Office (NNCO). Dr. Tinkle began by giving an overview of the NNI response to PCAST’s recommendations. She described the first decade of the NNI’s accomplishments, including establishing an infrastructure of

networks and facilities, human capital, and investments in environmental health and safety research. She also addressed NNI agencies' work on job creation and developing a skilled nanotechnology workforce, risk identification, strategic planning. Mr. Pena discussed the FDA's efforts to implement PCAST's recommendations, including its Enterprise Program on Nanotechnology, Intramural Regulatory Science Programs, and product-specific guidance and policy. Dr. Roco introduced the efforts of NSF to implement PCAST recommendations, including supporting research to develop sustainable nanotechnology and nanotechnology for solar energy, and efforts to direct research toward societal needs. Mr. Slotter spoke about DOD's efforts as part of the nanotechnology initiative, including interagency coordination and collaboration to build options for future defense capabilities.

PCAST members asked questions concerning products in the FDA pipeline awaiting approval, and whether science today was adequate to allow the FDA to approve those products; FDA engagement with regulatory counterparts in the European Union; efforts toward interagency coordination and stakeholder input; and creating computational support for modeling and simulation.

Agenda Item 5: Public Comment

Two members of the public provided comments to PCAST in person. The following individuals provided oral comment:

David Cook, Post-doctoral researcher
Julian Senic, Post-doctoral fellow

Additionally, numerous individuals provided written comments to PCAST; two of these comments were read aloud by PCAST staff and all submitted comments are posted on the PCAST website.

Dr. Lander adjourned the meeting at approximately 4:00 pm.

Respectfully Submitted:



Deborah D. Stine
Executive Director
President's Council of Advisors on Science and Technology

Approved:

A handwritten signature in blue ink that reads "John P. Holdren". The signature is written in a cursive style with a large initial 'J'.

John P. Holdren
Co-Chair
President's Council of Advisors on Science and Technology

A handwritten signature in black ink that reads "Eric Lander". The signature is written in a cursive style with a large initial 'E'.

Eric Lander
Co-Chair
President's Council of Advisors on Science and Technology