

American Mathematical Society
Committee on Science Policy Meeting
March 4-5, 2011
Washington, DC

Summary Report

The 2011 Committee on Science Policy (CSP) meeting consisted of presentations and discussions over a day and a half. Attendees included committee members, a number of chairs of departments of mathematics from across the country and guests.

Highlights from presentations:

The Honorable Jerry McNerney (D-CA-11)

Congressman Jerry McNerney spoke to the committee about the atmosphere on Capitol Hill, especially when it comes to research funding and STEM education issues. He talked about how important it is to invest in these areas and called on mathematics professors to encourage young people to get involved in science policy.

Hugh MacMillan

AMS 2010-2011 Congressional Fellow

Office of Senator Robert Menendez (D-NJ)

Hugh MacMillan, the current AMS Congressional Fellow, talked about his experience with the AAAS fellowship program and his position in the office of Senator Robert Menendez. He spoke of the orientation and training for new Fellows that was provided by AAAS and then talked about some of the issues that he has been working on in his position in Senator Menendez's office.

Karin Remington

Director, Center for Bioinformatics & Computational Biology

National Institute of General Medical Services, National Institutes of Health

Karin Remington began her presentation by describing the 27 separate institutes and centers that make up the National Institutes of Health (NIH) and explaining the significance of the National Institute of General Medical Services (NIGMS) within NIH. She then described the portfolio of programs within the Center for Bioinformatics and Computational Biology (CBCB), including the joint NSF/NIH Mathematical Biology Program.

Remington also described the Models of Infectious Disease Agent Study (MIDAS), which involves mathematical and computational investigations of pathogens, and the Biomedical Information Science and Technology Initiative (BISTI), a consortium of representatives from each NIH institute and center that serves as the focus of biomedical computing issues at the NIH.

Kei Koizumi

Assistant Director for Federal Research and Development

White House Office of Science and Technology Policy

Kei Koizumi discussed the FY2012 federal budget request and how it is designed to further the President's commitment to "Winning the Future" through investments in innovation, education and infrastructure. He explained that the FY2012 budget represents a substantial increase in federal research spending and sustains the commitment to doubling the budget of NSF, DOE Science and NIST. However, these increases come at a price in that the FY2012 budget offsets all increases with cuts in other programs and keeps non-security discretionary spending flat for the second year in a row.

Koizumi also pointed out that the FY2012 budget request includes \$3.4 billion for STEM Education in programs throughout the federal government and provides \$90 million to launch the Advanced Research

Projects Agency for Education (ARPA-ED), which is designed to support transformational education technology.

Koizumi also talked about the status of the FY2011 budget and how cuts in that budget might impact appropriations for FY2012.

Brad Keelor

Senior Science and Innovation Policy Advisor, British Embassy and

Naomi Webber

Deputy Director, Research Councils UK-Washington

Brad Keelor began the presentation by explaining that the United Kingdom completed its four year budget review last fall for budgets through FY2014-15. There were cuts across all departments, including the Department for Business, Innovation and Skills and the Ministry of Defense. These departments provide most of the research spending in the UK. Overall, investments in science are mostly flat over four years -- down ten percent in real terms.

Keelor also compared the UK investment in R&D with that of the United States, reporting that 2010 expenditures in the UK were \$37.6 billion compared to \$401.9 billion in the U.S. He also talked about the UK's commitment to improvements in mathematics education and the UK's Science and Innovation Network, which promotes scientific collaboration between the UK and the US.

Naomi Webber then described the makeup and mission of Research Councils UK, which is similar to the National Science Foundation in the US. She spoke specifically about the Engineering and Physical Sciences Research Council, which is the largest of the seven councils and funds programs in the mathematical sciences by investing \$55 million annually in research and postgraduate training.

Webber also mentioned the 2010 International Review of Mathematics in the UK, a report benchmarking the strength of UK mathematical sciences research, which was released in January 2011.

David Weinreich

Senior Policy Advisor

Office of Rep. Hansen Clarke (D-MI-13)

David Weinreich talked about U.S. investment in research and development over time and how it has been influenced by defining moments in history (i.e Sputnik). He pointed out that the Administration is very focused on 'winning the future,' but that there is a big partisan divide and a lack of understanding on Capitol Hill when it comes to science funding. He encouraged the mathematical community to get involved in advocacy efforts and help explain to lawmakers what is at stake.

As an illustration of the current climate in Congress, Weinreich commented that support for the COMPETES Reauthorization Act (2010) compared to the America COMPETES Act (2007) was very different. The 2007 COMPETE's Act was passed easily by voice vote, whereas the passage of the 2010 Reauthorization was much more partisan, initially failing and ultimately passing by a close margin.

Julia Lane

Program Director, Science of Science and Innovation Policy

National Science Foundation

Julia Lane informed the group about a new program being developed and led by a consortium including the National Science Foundation (NSF), National Institutes of Health (NIH), Environmental Protection Agency (EPA) and the Department of Energy (DOE) in conjunction with the White House Office of Science & Technology Policy (OSTP). The goal of the STAR METRICS program (Science and Technology for America's Reinvestment: Measuring the Effects of Research on Innovation, Competitiveness, and Science) is to work collaboratively with research institutions to build a scientific data infrastructure that will document the value of federal investments in research and development at a much higher level than was previously possible.

There are two phases to the development of the STAR METRICS program. Phase One includes developing uniform, auditable and standardized measures of the impact of science spending on job creation. Phase Two involves developing measures of the impact of federal science investment on scientific knowledge, social outcomes, workforce outcomes and economic growth.

Joel Parriott

***Program Examiner, Science and Space Programs Branch,
White House Office of Management and Budget (OMB)***

Joel Parriott discussed the budget process and his role in providing oversight for the National Science Foundation (NSF). He explained the current procedure for judging the performance of NSF programs and spoke to the importance of a more meaningful evaluation process such as STAR METRICS.

Sastry Pantula

***Director, Division of Mathematical Sciences
National Science Foundation***

Sastry Pantula begin his presentation by speaking broadly about the mission of the National Science Foundation. He also mentioned the need for new program officers in the Division of Mathematical Sciences (DMS) as they have many openings currently.

Pantula went on to discuss the kinds of investments being made by DMS, including disciplinary and interdisciplinary research, multi-disciplinary research, institutes, infrastructure and postdoctoral fellows. He highlighted a few specific programs, including SEES (Science, Engineering and Education for Sustainability) a multi-year NSF-wide investment area that will address challenges in climate and energy research and education.

Pantula also provided an overview of the FY2012 Budget Request from the perspective of NSF's Directorate of Mathematical & Physical Sciences (MPS).

Scott Weidman

***Director, National Academy of Sciences
Board on Mathematical Sciences and Their Applications***

Scott Weidman began by giving some background on the National Academies and then discussed the NSF-DMS sponsored "Mathematical Sciences in 2025" study. The project will provide a forward-looking assessment of the mathematical sciences and of emerging trends that may affect the discipline by 2025. A committee has been formed and is seeking community input through Town Hall meetings, online submissions and targeted conference calls. The study is to be completed by spring of 2012 and will make recommendations to NSF-DMS on how to adjust its portfolio to improve the vitality and impact of the discipline.

Other Discussion

There was some discussion about the role of the Committee on Science Policy and how it could become more active in advocating on science policy issues and collaborating with other societies and organizations in matters of science policy.

Committee on Science Policy Events at the 2012 Joint Mathematics Meeting

The committee has two slots at the Joint Mathematics Meetings each year, one for a government speaker and the other for a panel discussion. The committee will determine in the next few months how best to utilize these slots.

Date of Next Meeting

The 2012 Committee on Science Policy meeting will be held on March 16-17, 2012 in Washington, DC.