

American Mathematical Society
Committee on Science Policy Meeting
March 7-8, 2008
Washington, DC

Summary Report

The 2008 Committee on Science Policy (CSP) meeting included information sessions on the federal budget request for FY2009, research funding in the UK, a new effort to create a grassroots network for advocacy through the AMS, the AMS-AAAS Congressional Fellowship program and international cooperation in science and mathematics.

Highlights from presentations:

***Benjamin Mann, Program Manager – Mathematics Program
Defense Advanced Research Projects Agency (DARPA)***

Mann gave meeting attendees an overview of DARPA and DARPA's Defense Sciences Office (DSO). He talked about the founding of DARPA and its mission to prevent technological surprise from harming U.S. national security. His presentation included discussion of the characteristics of a DARPA program and some of DARPA's accomplishments. He also detailed the seven programs that he manages, including Topological Data Analysis (TDA), Sensor Topology for Minimal Planning (SToMP), Focus Areas in Theoretical Mathematics (FAThM) and others.

Tony Chan

***Assistant Director, Directorate for Mathematical & Physical Sciences
National Science Foundation***

Tony Chan gave a brief overview of the structure of the National Science Foundation and enumerated the FY 2008 appropriation for each of the NSF directorates. He also talked about trends in federal basic research funding across all agencies and specifically at NSF. He spoke briefly about the President's American Competitiveness Initiative (ACI) and how global economic competitiveness drives federal investment in science research. He then discussed the FY 2009 NSF Budget Request, particularly at the Division of Mathematical Sciences within MPS. At present, MPS is slated to receive a 20.2% increase over FY 2008 and DMS a 16% increase. He also discussed trends in funding rates and award sizes at DMS.

Chan felt that appropriations for the FY 2009 budget will not take place before the fall elections and he emphasized that, in the meantime, Congress will be looking to the science community to explain the role of the physical and mathematical sciences in addressing our nation's challenges. He felt that the mathematics community needs to be able to answer this question and, in turn, this will help determine the amount of the federal investment in mathematics and science research and education.

Helen Thorne

***Director, Office in the U.S.
Research Councils UK***

Helen Thorne introduced meeting attendees to the Research Councils UK. She explained the UK government's vision for science and technology, which is similar to U.S. goals of being a leader in innovation and global competitiveness. She also explained how research is funded in the UK through seven different research councils covering all academic disciplines. These discipline-based research councils operate independently, but work together within a 3-year funding cycle through the Research Councils UK.

Thorne specifically discussed the Engineering and Physical Sciences Research Council (EPSRC) which is the major funder of mathematics research in the UK. Its current portfolio is worth \$210 million which is invested in research grants, fellowships and PhD studentships.

Thorne explained that the UK is addressing some of the same challenges that the U.S. has and is committed to improving the quality of mathematics teaching at primary and secondary levels, increasing the number of students studying mathematics after age 16 and improving career advice. She also talked about collaborative efforts between the UK and the U.S.

James Turner, Chief Counsel

House Committee on Science & Technology

Jim Turner discussed the federal appropriations process and the status of the FY 2009 budget. He explained that it remains to be seen whether there will be several appropriations bills (as is the usual process), a large appropriations bill (an omnibus bill where all appropriations are done together) or a continuing resolution (where everything is funded at the prior year's level until the appropriations process is completed). Since it is a Presidential election year, the appropriations process will likely be delayed until the new President takes office in January 2009 so that he/she may be able to insert his/her priorities for funding into the FY 2009 budget. Turner felt it very possible that we would end up with a continuing resolution between the September 30, 2008 fiscal year end and the new Administration taking office in January 2009.

Homer Walker

***Program Manager for Applied Mathematics, Office of Advanced Scientific Computing Research
Office of Science, U.S. Department of Energy***

Homer Walker began his presentation by outlining the organization at the DOE Office of Science. He discussed its mission, vision, research programs and projects. He discussed several of the programs and projects in particular. As an example, Walker highlighted the Scientific Discovery through Advanced Computing (SciDAC) program, which uses coordinated research efforts to exploit emerging computer applications. He also discussed the Computational Science Graduate Fellowship program, Applied Mathematics Research program, and the Multi-Scale Mathematics Research and Education program.

Walker discussed budget trends at the Office of Advanced Scientific Computing Research and how funding for applied mathematics is allocated. He also talked about a new funding opportunity for multi-scale mathematics and optimization for complex systems, and an upcoming workshop to be held in June 2008 on mathematics for petascale data.

Jeffrey Phan

AMS Congressional Fellow, Office of Senator Jeff Bingaman

Jeffrey Phan, the AMS Congressional Fellow for 2007-08, currently works in the Office of Senator Jeff Bingaman. His presentation was centered on his experience as a Fellow in this program sponsored by the American Association for the Advancement of Science (AAAS). He gave an overview of the Congressional Fellowship program itself and then explained what his role is in the office of Senator Bingaman. He emphasized the importance of the fellowship experience as a means to give scientists a voice behind the scenes where policy decisions are made.

Joel Parriott

Program Examiner, Office of Management and Budget (OMB)

Joel Parriott explained the organization of the Executive Office of the President and how the Office of Management and Budget fits in. He also made the distinction between career staff and political staff and their roles within the OMB hierarchy. He explained that the purpose of the OMB is to assist the President in developing and executing policies and programs. He talked about federal funding for science research by examining trends, discretionary v. non-discretionary spending and how the President's priorities and budget pressures determine funding amounts.

Kei Koizumi

Director, R&D Budget and Policy Program

American Association for the Advancement of Science

Kei Koizumi outlined the composition of the FY 2009 federal budget and looked at trends in discretionary spending over the past 30+ years. He discussed the proposed budget in terms of total R&D funding by agency and explained how the American Competitiveness Initiative (ACI) impacts the total amounts requested. He also discussed trends in federal R&D funding overall and by agency.

Koizumi then presented FY 2009 budget request amounts for the NSF as a whole and by directorate. He pointed out that there is a clear differentiation in this budget request between the directorates, but it remains to be seen whether it will be sustained. He talked about the importance of funding for R&D to the U.S. economy and to U.S. competitiveness. He expressed the concern shown by policymakers over the weakening trend in research dollars spent as a percentage of U.S. GDP when trends in other countries are showing increased investments in research.

Koizumi explained that Congress has begun its work on an FY 2009 budget resolution with discretionary spending targets that will determine totals for later appropriations action. However, it is possible that appropriations bills will not move forward until the next President takes office in January 2009. If the process drags on, it will become more likely that appropriations for FY 2009 will be done through an omnibus bill, which could result in weaker increases for funding research.

Sam Rankin

AMS Associate Executive Director

Sam Rankin presented a new effort to create an AMS Grassroots Advocacy Network which would be charged with building the case for increased federal support of mathematics and science research and education to Members of Congress. He explained that mounting pressure on the federal budget requires broad community support in this endeavor, especially since Members do not currently feel repercussions for their lack of support for increased science funding.

Rankin explained why such an advocacy group is needed and how it would go about its work. He explained that in order for the network to be successful, mathematicians would need to make a commitment to create ongoing relationships with their Congressional representatives, and to both ask for support of increased research funding and to offer themselves as a resource to the representative. The AMS Washington Office would spearhead this effort and provide support to network members.

The Committee was very supportive of this new endeavor and it was decided that the AMS Washington Office would set up the first drive in this effort the week of May 5, 2008. The AMS Washington Office would provide the message to be conveyed and all pertinent material and information to network members.

Marjorie Senechal

Smith College and CSP Member

Marjorie Senechal led a discussion on the importance of international collaboration and relationship building in the mathematics community. She reviewed a report to be presented at the upcoming AMS Council meeting that highlights the international efforts of the AMS. There was some discussion about the idea of open access to journals and ways in which mathematicians in developing countries could gain access to publications. The AMS Council will review its ongoing international activities and look for ways in which they might be expanded.

Other Discussion

Jim Glimm, SUNY at Stony Brook and AMS President, led an informal discussion on the focus of the mathematics community on its definition of pure v. applied mathematics. It was the general consensus of the group that the "tent" was big enough for all and that the community's ultimate goal should be to work towards increased funding for all mathematics research.

Committee on Science Policy Events at the 2009 Joint Mathematics Meeting

Since the Joint Mathematics Meeting will be held in Washington, DC in 2009, the committee decided to use its time slot to invite some Members of Congress and/or staff to speak. The format and topic will be determined later. The additional time slot set aside for a government speaker will not be used.

Date of Next Meeting

The next meeting of the AMS Committee on Science Policy was scheduled for Friday-Saturday, March 6-7, 2009 in Washington, DC.

Submitted by Anita Benjamin
American Mathematical Society
March 24, 2008