

## MEMORANDUM TO MEMBERS AND CONSULTANTS OF THE NATIONAL SCIENCE BOARD

**SUBJECT:** Summary Report of the February 2-3, 2012 Meeting

The major actions and approvals of the National Science Board (Board, NSB) and a preliminary summary of the proceedings at the Board's February 2012 meeting are provided. This memorandum is also made available for public review. The minutes of the Plenary Open Session for the February 2012 meeting will be posted on the Board's public Web site (<http://www.nsf.gov/nsb/>) following Board approval.

### 1. Major Actions and Approvals at the 424th NSB Meeting (not in priority order):

- a. The Board authorized the NSF Director, at his discretion, to make an award for the Operation of the International Gemini Observatory, Association of Universities for Research in Astronomy (AURA) (NSB-11-75).
- b. The Board approved the recipients for the 2012 Waterman Award. The names of the awardees will be revealed in a public announcement this spring.
- c. The Board agreed that the next annual Board retreat and off-site meeting and research visit will be held in San Diego, California on September 19-20, 2012.
- d. The Board approved the Committee on Science and Engineering Indicators' (SEI's) Companion Piece to *Science and Engineering Indicators 2012* entitled, *Research & Development, Innovation, and the Science and Engineering Workforce* (NSB-12-3), subject to final edits approved by the SEI chairman and the Board Chairman.
- e. The Board elected the following Board Members to the *ad hoc* Committee on Nominating for NSB Elections, informally called the Elections Committee: Dr. Bruer, chairman, and Dr. Galloway, Dr. Griffiths, and Mr. Reilly, members.
- f. The Board Chairman discharged the Task Force on Merit Review with thanks to Drs. Bruer and Leshner, co-chairman, and Drs. Lanzerotti, Randall, Souvaine, and Taylor, members.
- g. The Board approved the minutes of the Plenary Open Session for the December 2011 meeting (NSB-11-85) <http://www.nsf.gov/nsb/meetings/2011/1213/minutes.pdf>. Also approved were the Board minutes for the Plenary Executive Closed (NSB-11-83) and Plenary Closed Sessions (NSB-11-84) for the December 2011 meeting.

## **2. Board Chairman's Introduction and Report**

Dr. Ray Bowen, NSB Chairman, reported on the 2012 *Science and Engineering Indicators (Indicators)* and the 2012 *Indicators Digest* that were publicly released. On January 17, 2012, there were two virtual press conferences. The first focused on *Indicators'* findings on the loss of high-tech manufacturing jobs, and the second was focused on the reduction in per student funding at our public research universities. As a result of these two briefings, *Indicators* received significant press attention with coverage in major news venues such as *The Wall Street Journal*, *The New York Times*, *The Washington Post*, *Time*, and *Forbes*.

On January 18, 2012, a briefing sponsored by the Research and Development (R&D) Caucus was held on Capitol Hill with congressional staff and representatives from various scientific and professional societies. Congressman Rush Holt of the 12th District of New Jersey, co-chair of the R&D Caucus, spoke about the importance of science and the utility of the *Indicators* to policy makers. The purpose of briefing was to help congressional staff and other constituencies learn what types of data are available in *Indicators* and how they can use *Indicators* in their everyday work.

As a follow-on to comments at the December 2011 meeting, the Chairman will ask the Executive Committee to review a background paper on the subject of Issues Relating to Senate Confirmation of Board Member Nominations.

On the topic of outreach, Dr. Bowen announced that he will testify before the House Committee on Science, Space, and Technology, Subcommittee on Research and Science Education on February 28, 2012. The testimony will be on the NSF FY 2013 Budget Request.

Dr. Bowen also announced the location of the 2012 off-site Board retreat, meeting, and research visit (See 1.c.), and committee changes (See 1.e. and 1.f.).

Dr. Bowen recognized the following Board Members who received recent honors:

- Dr. Diane Souvaine was elected as a fellow to the Association for Computing Machinery, the world's largest educational and scientific computing society.
- Dr. Patricia Galloway received an Honorary Doctorate of Science degree from the South Dakota School of Mines.

Dr. Bowen welcomed the following Board Office staff:

- Dr. Matthew Wilson as a permanent member of the Board Office staff as a Science Policy Analyst. He previously served as a AAAS Fellow and a temporary Federal employee in the Board Office.
- Dr. John Veysey, also a Science Policy Analyst, who previously worked as a Legislative Director for Congressman Daniel Lipinski and a AAAS Congressional Science Fellowship with Senator Robert Menendez.

## **3. NSF Director's Report**

Dr. Subra Suresh, NSF Director, introduced the following NSF staff:

- Dr. Parag Chitnis, Division Director, Division of Molecular and Cellular Biosciences (MCB), Directorate for Biological Sciences (BIO) (as of January 15, 2012).

- Ms. Judith Gan, Head, Office of Legislative and Public Affairs (OLPA) (as of December 18, 2011).
- Mr. Eugene Hubbard, Head, Office of Information Resource Management (OIRM) and Chief Human Capital Officer (CHCO) (as of January 2, 2012).
- Ms. Amy Northcutt, NSF's Chief Information Officer (CIO) (as of January 2, 2012).
- Dr. Muriel Poston, Division Director, Division of Human Resource Development (HRD), Directorate for Education and Human Resources (EHR) (as of September 12, 2011).

For the congressional update, Dr. Suresh reported that President Obama will release his FY 2013 budget request to Congress on February 13, 2012. NSF has three FY 2013 budget hearings scheduled: February 28, 2012, before the House Science Committee's Subcommittee on Research and Science Education; March 6, 2012, before the House Commerce, Justice, Science, and Related Agencies Appropriations Subcommittee; and again on March 6 before the Senate Committee on Commerce, Science, and Transportation's Subcommittee on Science and Space.

#### **4. Board Committee Reports**

[Note: The Executive Committee (EC) did not meet in February 2012.]

##### **a. Committee on Audit and Oversight (A&O)**

In A&O Open Session, Ms. Allison Lerner, Inspector General (IG), discussed three recent investigations and their outcomes as well as continuing audit work on the development and use of contingency budgets for large infrastructure projects. She also discussed how the Office of Inspector General (OIG) is consulting with the Office of Management and Budget (OMB) and other Federal agencies on revisions to the circulars pertaining to grant management. The A&O chairman noted specific work that OIG has been doing to serve the broader Inspector General community.

Ms. Martha Rubenstein, NSF Chief Financial Officer (CFO), affirmed the considerable effort NSF staff was putting into addressing the contingency budgeting issue and assuring that construction funding is properly managed. She noted that the implementation of a new financial system for NSF was on track. She reported on how NSF was handling the mandate by OMB to responsibly accelerate American Recovery and Reinvestment Act (ARRA) grant spending. She also discussed NSF's commitment supporting the NSB's intention of being transparent, including in matters relating to the Financial Accounting Standards Board (FASB) "related parties disclosure rule."

Dr. Judith Sunley, Division Director, Human Resources Management (HRM), highlighted that NSF is committed to supporting a healthy career/life balance for both NSF staff and the broader scientific community. She also reported on NSF's continuing efforts (and successes) in making telework an important and effective part of the NSF culture.

In A&O Closed Session, the committee discussed a procurement matter, as well as procedural issues relating to appropriate handling of Board Member engagement in NSF proposal and review processes.

## **b. Committee on Education and Human Resources (CEH)**

The committee, in its pursuit to better understand the practices and challenges of education research, heard presentations from two experts in the field: Dr. Adam Gamoran, University of Wisconsin Madison and Dr. Paul Cobb, Vanderbilt University. Both speakers informed the committee about the current landscape, challenges, and future opportunities of education research with Dr. Gamoran addressing the topic from a national-level perspective and Dr. Cobb providing insights at the practitioner level.

The CEH chairman updated the committee on the scheduling of an upcoming WebEx meeting with the options being February 28 or March 6, 2012, which will feature Office of Science and Technology Policy's (OSTP's) Associate Director for Science, Dr. Carl Wieman.

## **c. Committee on Science and Engineering Indicators (SEI)**

SEI brought to the Board the committee's recommendation to approve for publication the Companion Piece to *Science and Engineering Indicators 2012* entitled, *Research and Development, Innovation, and the Science and Engineering Workforce (NSB-12-3)*, subject to final edits approved by the SEI chairman and the Board Chairman. *[The full Board approved this report.]* (See 1.d.)

The committee discussed the second Companion Piece, which covers state funding of public research universities. It agreed on the need to develop a clear consensus on the purpose and intended audience and to be attentive to the quality of the data underlying any findings and recommendations. The *ad hoc* group that is developing this Companion Piece intends to meet monthly and report on its progress at the May 2012 committee meeting.

The SEI chairman reported that the rollout of *Science and Engineering Indicators 2012* was very successful.

Dr. Myron Gutmann, Assistant Director, Directorate for Social, Behavioral, and Economic Sciences (SBE), provided a brief overview on the President's plan for Government reorganization and consolidation and NSF's role in it.

## **d. Committee on Programs and Plans (CPP)**

CPP continued the ongoing discussion about the CPP Program Portfolio planning process. The CPP chairman noted that the CPP oversight of NSF programs dates back to 1985 in a document that described the characteristics of Board program reviews. The committee also discussed potential programs for planning consideration; while "International Programs" and "STEM Education" had been selected at prior meetings, the committee had expressed a preference for inclusion of a third, more science-focused topic. Dr. Clifford Gabriel, Acting Director, Office for Integrative Activities, presented two potential topics: neuroscience and software issues. After thorough discussion, the committee agreed that these topics were both strong candidates. NSF tentatively agreed to prototype the software issue as the first topic at the May 2012 meeting.

Dr. Edward Seidel, Assistant Director, Directorate for Mathematical and Physical Sciences (MPS), and Dr. Philip Puxley, Atacama Large Millimeter Array (ALMA) Program Officer, provided an update on the recompetition and no-cost extension of the ALMA facility.

Dr. Puxley told the committee about the tremendous progress that has been made on the ALMA facility in the last year, including near completion of roads and power systems, and nearly tripling the number of antenna available at the site. He also informed the committee that science operations began in September 2011 as planned and that ALMA has received much interest from the scientific community. Dr. Puxley also provided information on preliminary plans for recompetition in 2015, and promised to update the committee when that process begins.

In CPP Closed Session, the committee considered one action item and forwarded it to the full Board for consideration: Renewal of the International Gemini Observatory, Association of Universities for Research in Astronomy (AURA). [*The full Board subsequently approved this award resolution.*] (See 1.a.)

#### CPP Subcommittee on Polar Issues (SOPI)

Dr. Karl Erb, Director, Office of Polar Programs, provided updates on several topics, including the transition of the U.S. Antarctic Program (USAP) logistical support contract from Raytheon to Lockheed Martin, NSF's involvement in rescue efforts in two fishing vessel accidents in the Ross Sea, Antarctica, the U.S. Coast Guard *Healy's* involvement in the successful refueling of Nome, Alaska, and the resupply of McMurdo Station, which is proceeding smoothly.

The Blue Ribbon Panel is tasked with conducting a review of the USAP to ensure a sustainable long-term strategy for support of science and the U.S. presence in Antarctica. In response to the discussion at the December 2011 SOPI meeting, Dr. Bowen sent a letter on behalf of NSB to Mr. Norman Augustine, Chairman of the Blue Ribbon Panel, emphasizing the importance of a long-term strategy for icebreaker support for the Antarctic Program, but to do so in the context of a systems perspective. Earlier this week, NSB received a response from Mr. Augustine thanking NSB for its input and indicating that the issues raised will be considered as the Panel carries out its work. Dr. Erb also provided an update on the status of Blue Ribbon Panel activities, which are currently underway and should conclude this spring.

Dr. Edward Dunlea, National Academy of Sciences/National Research Council, presented an overview of a study into future science opportunities in Antarctica and the Southern Ocean. The study identified two major themes, global change and discovery, that will drive scientific research in Antarctica over the next 2 decades and several opportunities to improve support to Antarctic research.

#### CPP Task Force on Unsolicited Mid-Scale Research (MS)

The task force presented a first draft of its final report, which included seven key findings and three recommendations. The primary key finding was that NSF does fund mid-scale research in a wide range of forms and the conclusion was that NSF is already on track to address the issues found in the study. The Director and several Board Members expressed the view that the findings seem to suggest that mid-scale research is being supported at the proper level and that the tone and length of the report should be scaled in such a way that it does not indicate that there is a major problem with mid-scale research at NSF. The task force will address these concerns,

including rethinking the form or nature of the final product. Finally, the task force reported that its customer satisfaction survey had been completed and the results were being analyzed.

**e. Joint Committee on Programs and Plans / Committee on Strategy and Budget (Joint CPP-CSB)**

In Joint CPP-CSB Open Session, Dr. Mark Coles, Deputy Director, Large Facilities Office, presented the NSF Annual Facilities Plan, describing details of the NSF facilities portfolio. Dr. Coles spoke on many aspects of NSF facilities, including the selection and prioritization process, current budget concerns, operations and management (O&M) issues, contingency planning and oversight, detailed information on specific facilities, and other assorted facility construction and management issues. CSB and CPP members asked a variety of questions, including how to navigate roles of international partners and where existing off-ramps are for projects going through the internal review process.

In Joint CPP-CSB Closed Session, the joint committee continued its discussion of the NSF Annual Facilities Plan.

**f. Committee on Strategy and Budget (CSB)**

In CSB Open Session, Dr. Candace Major, Co-chairman, NSF Merit Review Working Group, presented provisional recommendations, including suggested process enhancements and proposal demand management strategies. NSF reported that data collection and evaluation were still ongoing. Dr. Suresh provided a brief update on the NSF FY 2012 budget, noting that the agency received nearly a 3 percent increase over the FY 2011 enacted level for the agency. Dr. Souvaine, CSB chairman, led a discussion on strategic planning for FY 2012 activities and outyears during which CSB members discussed the potential impacts of implementing some of the Merit Review Working Group recommendations.

Ms. Jean Feldman, Policy Office Head, NSF Division of Institution and Award Support, updated the committee on the NSF's implementation of the Board's Cost Sharing policy. Ms. Feldman reported that NSF had briefed the community at 26 different external meetings, 9 internal NSF Town Hall meetings, and numerous individual staff briefings. She further noted that implementation of this policy change was more challenging than other policy changes.

In CSB Closed Session, Dr. Suresh presented information on the FY 2013 budget development process. CSB members also discussed with NSF management staff policies and planning for budget processes for FY 2013, FY 2014, and outyears. As a result of these discussions, CSB will consider taking on the task of developing a strategic plan for the Board.

CSB Subcommittee on Facilities (SCF)

The Board's report on mid-scale instrumentation, in response to the America COMPETES Reauthorization Act of 2010, was submitted to Congress on January 4, 2012. The subcommittee was told that OSTP was pleased with the report and a briefing is being scheduled for the House Committee on Science and Technology's Subcommittee on Research and Science Education. The subcommittee discussed the materials presented earlier in the day regarding NSF's facilities

plan in the context of SCF's upcoming Annual Portfolio Review, which it will undertake at the May 2012 Board meeting.

CSB Task Force on Data Policies (DP)

The task force discussed the comments received from the public on the report, *Digital Research Data Sharing and Management* (NSB-11-79). The report represents significant initial policy steps by the Board on the topic of scientific digital data and additional consideration by the task force has merit. The task force is contemplating an addendum to the original charge to consider additional important aspects of data policy for the NSF.

*[signed]*

Michael L. Van Woert  
Executive Officer