

MEMORANDUM TO MEMBERS AND CONSULTANTS OF THE NATIONAL SCIENCE BOARD

SUBJECT: Summary Report of the December 9-10, 2008 Meeting

The major actions and approvals of the National Science Board (Board, NSB) and a preliminary summary of the proceedings at the Board's December 2008 meeting are provided. This memorandum is also made available for public review. The minutes of the Plenary Open Session for the December 2008 meeting will be posted on the Board's public Web site (<http://www.nsf.gov/nsb/>) following Board approval at the February 2009 meeting.

1. Major Actions of the Board (not in priority order):

- a. The Board approved the minutes of the Plenary Open Session (NSB-08-99) for the September 2008 meeting (<http://www.nsf.gov/nsb/meetings/2008/0922/minutes.pdf>). Minutes for the Plenary Executive Closed Session for August 2008 and the Closed Session for the September 2008 meeting of the Board were also approved.
- b. The Board approved a resolution to close portions of the upcoming February 23-24, 2009 Board meeting dealing with staff appointments; candidates for honorary awards; future budgets; grants and contracts; specific Office of the Inspector General investigations and enforcement actions; and National Science Foundation (NSF) participation in a civil or administrative action, proceedings, or arbitration (<http://www.nsf.gov/nsb/meetings/2009/0223/closing.pdf>).
- c. The following recently confirmed Board Members of the Class of 2014 took the Oath of Office during a brief ceremony at the start of the Board meeting: Dr. Ray Bowen, President Emeritus, Texas A&M University; Dr. France Córdova, President, Purdue University; Dr. Esin Gulari, Dean of Engineering and Science, Clemson University; Dr. G. P. "Bud" Peterson, Chancellor, University of Colorado, Boulder; Dr. Douglas Randall, Professor and Thomas Jefferson Fellow, University of Missouri, Columbia; and Dr. Diane Souvaine, Professor and Chair, Department of Computer Science, Tufts University.
- d. The Board authorized the NSF Director, at his discretion, to make an award to Johns Hopkins University for support of a proposal entitled *The Data Conservancy (A Digital Research and Curation Virtual Organization)*.
- e. The Board authorized the NSF Director, at his discretion, to make an award to the University of New Mexico for support of a proposal entitled *DataNetONE (Observation Network for Earth)*.

- f. The Board authorized the NSF Director, at his discretion, to make an award to Cornell University for renewal of the National Nanotechnology Infrastructure Network (NNIN).
- g. The Board approved the recipients for the 2008 Vannevar Bush Award and the NSB Public Service Awards. The names of the awardees will be announced after they have been notified.
- h. Dr. Bement, NSF Director and Chairman of the Executive Committee, agreed to have the Executive Committee take the responsibility for the approval of Closed Session items for Board meetings for all future meetings.
- i. Dr. Bement also agreed that the Executive Committee will draft a prioritization process for future major activities of the Board for discussion at the February 2009 meeting and provide a report to the full Board at the May 2009 meeting.
- j. Dr. Kathie Olsen, NSF Deputy Director, agreed to establish a management implementation committee to commemorate the 60th Anniversary of NSF, and work jointly with the Task Force on the NSB 60th Anniversary.
- k. The Board approved the draft report, *Investing in the Future: NSF Cost Sharing Policies for Sustaining a Robust Federal Research Enterprise* (draft for public comment NSB/CS-08-18) to be released for public review and comment, subject to minor edits approved by the Chairman of the Board and the Task Force on Cost Sharing chairman.
- l. The Board approved a revised charge to the Committee on Education and Human Resources (EHR) (NSB-08-124), which includes a revised committee acronym of “CEH”.
- m. The Board approved a new separate charge for a Science and Engineering Indicators Committee (SEI) (NSB-08-125), which will no longer be an EHR subcommittee.
- n. The Board approved a revised workplan for the CEH (formerly EHR) Expert Panel Discussion on Preparing the Next Generation of STEM Innovators (NSB-08-82).
- o. The Board approved the location of The Ohio State University, Columbus, Ohio as the site of the next annual Board retreat and off-site visit to be held on September 23-24, 2009.

2. Board Chairman’s Report

At the request of Dr. Steven Beering, Chairman, Dr. Arden Bement, NSF Director and Chairman of the Executive Committee, agreed that the Executive Committee (EC) will take the responsibility for the approval of Closed Session items for Board meetings for all future meetings, and that the EC will draft a prioritization process for future major activities of the Board for discussion at the February 2009 meeting and provide a report to the full Board at the May 2009 meeting. (See 1h.-i.)

The Board approved the location of The Ohio State University in Columbus, Ohio as the site of the next annual Board retreat and research off-site visit to be held on September 23-24, 2009. In addition to supporting science and engineering research and research infrastructure where a number of prominent NSF programs are represented, Ohio State is a leader in STEM education and home to the Battelle Center for Mathematics and Science Education Policy, which is led by Board Member, Dr. Kathryn Sullivan. (See 1.o.)

Dr. Beering recognized Dr. Christine Boesz, NSF Inspector General (IG), upon her upcoming retirement in January 2009. On behalf of the Board, he stated that Dr. Boesz had been a steadfast champion of integrity and efficiency in serving NSB during the past decade. Mr. Thomas (Tim) Cross, current Deputy IG, would serve as Interim IG.

Dr. Beering announced that the National Academy of Engineering presented Dr. G. Wayne Clough with the Arthur M. Bueche Award for leadership in science, technology, and engineering policy at its annual meeting in October 2008. The award recognizes “outstanding accomplishments advancing civil engineering and higher education, and for leadership at the local, state, and national level in policy analysis and advisory roles.”

Lastly, Dr. Beering welcomed Ms. Jennie Moehlmann, who joined the Board Office in November 2008 as Chief of the new Board Office Policy Branch.

3. NSF Director’s Report

Dr. Arden Bement, NSF Director, introduced the following new NSF staff:

- ◆ Dr. John McGrath, Director, Division of Chemical, Bioengineering, Environmental and Transport Systems (CBET) (as of October 1, 2008).
- ◆ Dr. Robert Detrick, Director, Division of Earth (EAR) Sciences (as of November 3, 2008).

Dr. Bement announced the following NSF staff departure:

- ◆ Dr. Jack Lightbody, Deputy Assistant Director, Directorate for Mathematical and Physical Sciences (MPS), after 21 years of service with NSF.

Dr. Bement also announced that the recipients of the 2008 Presidential Rank Awards – Meritorious Executive Rank for sustained accomplishment:

- ◆ Dr. Peggy Fischer, Associate Inspector General for Investigations, Office of the Inspector General (OIG)
- ◆ Ms. Andrea Norris, Director, Division of Information Services, Office of Information Resource and Management (OIRM)

For the congressional update, Dr. Bement reported that the House and Senate met the week of November 17, 2008 in a “lame duck” session to hold internal elections for House and Senate Leadership for the 111th Congress. Senator Daniel Inouye will replace Senator Robert Byrd as Chairman of the Senate Appropriations Committee, and Congressman Henry Waxman will replace Congressman John Dingell for Chairman of the House Energy and Commerce Committee.

4. Board Committee Reports

a. Executive Committee (EC)

Dr. Bement reported on the NSF transition team members and the interactions between the team and NSF senior leadership. He also discussed the status of the recruitment for the Assistant Directors for the Directorates for Social, Behavioral, and Economic Sciences (SBE) and Biological Sciences (BIO). Dr. Beering described the recruitment process for the NSF IG.

b. Audit and Oversight (A&O) Committee

In A&O Open Session, Dr. Dan Arvizu, A&O chairman, reported that the cover letter and management response, which accompany the NSF Office of Inspector General's (OIG's) *Semiannual Report to Congress, September 2008*, were approved by the committee and the Board by e-mail and transmitted to Congress. The chairman gave an update on the status of the search for the next IG. Dr. Kathie Olsen, NSF Deputy Director, reported on an NSF and OIG discussion which had been requested by Dr. Arvizu at the August 2008 meeting. The discussion addressed problems arising from differing approaches to accountability among international funding organizations, and the impact on international research collaborations.

Mr. Sal Ercolano, of Clifton Gunderson, the Partner-in-Charge of NSF's financial statement audit, presented the results of the FY 2008 audit. This year's audit resulted in a "clean" opinion and the determination that two prior significant deficiencies no longer met that threshold (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=afr). Mr. Thomas Cooley, NSF Chief Financial Officer, observed that the design and implementation of a new financial system are critical to sustaining NSF's longstanding track record on clean opinions. He also reported on clarifications to NSF's faculty salary compensation policy, which offers more flexibility to universities than the old "summer salary" rule.

Ms. Kristen Cutforth, OIG auditor and attorney, presented findings contained in a report about NSF's Large Facility Operations Agreements. Dr. Boesz provided information about the new IG Reform Act and how it will affect NSF.

In A&O Closed Session, OIG discussed several ongoing investigations, proposed agency actions, and reported on internal personnel and process issues.

c. Committee on Education and Human Resources (CEH)

The committee reviewed two charges – one which revised the charge of the full standing committee (and change its acronym from EHR to CEH), and the second charge which would establish a new standing Committee on Science and Engineering Indicators. Both charges were supported within the committee. [*The full Board subsequently approved the two charges.*] (See 1.1. - 1.m.)

The committee also heard from the task group that is planning a workshop on next generation STEM innovators. The task group reported on its meeting with experts from NSF and the Department of Education staff. The task group recommended that the workplan for the CEH Expert Panel Discussion on Preparing the Next Generation of STEM Innovators be amended to allow more

time for developing the intellectual content of the workshop – given the breadth of possible issues associated with this topic. [*The full Board subsequently approved the revised workplan.*] (See 1.n.)

d. Committee on Science and Engineering Indicators (SEI)

The committee completed its discussion of the revised chapter outlines for *Science and Engineering Indicators 2010 (Indicators)*. Chapter authors will include appropriate data that is responsive to concerns expressed by Board Members.

Board Members volunteered to review the draft *Indicators* chapters. Some chapters lack volunteers who are willing to serve as lead reviewers. Board Members were asked to submit suggestions for expert chapter reviewers by February 1, 2009. The committee agreed to publish the appendix tables for the 2010 *Indicators* in primarily electronic form, as recommended in a memorandum from Dr. Lynda Carlson, Director of NSF's Division of Science Resources Statistics (SRS).

The committee discussed plans for the 2010 *Digest of Key S&E Indicators*. It was agreed that Board Members should be involved at all stages of developing this product. Drs. Arden Bement, G. Wayne Clough, Esin Gulari, and Alan Leshner agreed to work with Dr. Louis Lanzerotti, SEI chairman, and the staff on content and formats for the Digest.

e. Committee on Programs and Plans (CPP)

In CPP Open Session, the committee heard an information report on a future action item: the award of a Cooperative Agreement for the management and operation of the National Radio Astronomy Observatory (NRAO). The committee also received updates on the Ocean Observatories Initiative (OOI), the Alaska Region Research Vessel (ARRV), and the Experimental Program to Stimulate Competitive Research (EPSCoR). Finally, the committee discussed proposed changes to the Major Research Equipment and Facilities Construction (MREFC) process at the National Science Foundation, and changes to the overall committee structure, including changes to the award thresholds for Board review.

Dr. Vern Pankonin, Program Manager for Astronomical Sciences in the Directorate for Mathematical and Physical Sciences (MPS), presented an information item on the Associated Universities, Inc. proposal for the Management and Operations for the National Radio Astronomy Observatory (NRAO). In December 2007, NSB was informed that an award for a new 6-year cooperative agreement for the management and operation of NRAO should not be competed (NSB/CPP-07-36) at that time; NSF plans to compete the award at the end of this award cycle. Also, NSF plans to bring the renewal proposal to the Board for action in May 2009.

Dr. Timothy Killeen, Assistant Director for the Directorate for Geosciences (GEO), gave an update on the Ocean Observatories Initiative (OOI) and the status of the Alaska Region Research Vessel (ARRV). Both projects have successfully completed final design reviews and NSF expects to bring relevant action items before the Board in May 2009.

Dr. Henry Blount, Office Head for the Experimental Program to Stimulate Competitive Research (EPSCoR), gave an update on recent changes in the EPSCoR program, including a move to the Office of Integrative Activities in the NSF Director's Office. He also noted there are currently nine proposals under review, and NSF is likely to bring award recommendations before the Board in May 2009.

Dr. Mark Abbott continued the discussion of the committee's progress in developing a proposal for a revision to the MREFC process. Mr. Cooley discussed a possible implementation plan. The Board concluded that a proposed structure will be finalized at the February meeting and given a test run at the May 2009 Board meeting.

In CPP Closed Session, the committee approved three action items: *The Data Conservancy (A Digital Research and Curation Virtual Organization)* to Johns Hopkins University; *DataNetONE (Observation Network for Earth)* to the University of New Mexico; and Renewal of the National Nanotechnology Infrastructure Network (NNIN) to Cornell University. [The full Board subsequently approved the three award resolutions.] (See 1.d. – 1.f.)

CPP Subcommittee on Polar Issues (SOPI)

Dr. Karl Erb, Director, Office of Polar Programs (OPP), discussed the impact of the FY 2009 budget on International Polar Year (IPY) activities, noting that emphasis was placed on maintaining IPY commitments to grantees. He described the recent evacuation by the Air National Guard of an injured Australian from that country's Davis station, and reported on the grounding in the Southern Ocean last week of the cruise ship MV *Ushuaia*. He also compared the Arctic Sea ice coverage this summer to last. Finally, Dr. Erb reported on the recently signed NSF-Department of Energy memorandum of understanding on renewable energy and energy efficiency. Mr. George Blaisdell and Mr. Patrick Haggerty reported on efforts to increase energy efficiency and exploit renewable energy in the Polar Regions.

CPP Task Force on Sustainable Energy (SE)

Task force co-chairmen, Drs. Dan Arvizu and Jon Strauss summarized their informal discussions in November 2008 with U.S. Government stakeholders where they reviewed task force activities, described potential report recommendations, and received informative guidance. SE also discussed a draft report on sustainable energy to include the major findings, recommendations to the U.S. Government, and guidance to NSF. This draft report will be revised over the next several months, and Board Members are urged to provide comments and revisions as soon as possible to the SE co-chairmen.

f. Committee on Strategy and Budget (CSB)

In CSB Open Session, Mr. Cooley presented an overview of the NSF long-range planning background material, which included information such as funding in relation to the NSF strategic goals, which was useful for the committee's ensuing discussion on strategic planning.

In an effort to provide input to NSF on the next NSF Strategic Plan, the committee initiated review of the investment priorities associated with the four goals identified in the current NSF Strategic Plan (Discovery, Learning, Research Infrastructure, and Stewardship). CSB will resume discussions at the meeting in February 2009. Additionally, the committee will work with CPP to identify the role of CSB in the portfolio review process of NSF facilities in time for the February 2009 meeting.

In CSB Closed Session, Dr. Bement presented a summary of FY 2010 budget development.

CSB Task Force on Cost Sharing (CS)

The task force noted the *Federal Register* request for public comments on cost sharing issues, which resulted in submission of numerous comments. The comments were influential in shaping the second report on NSF cost sharing policy, *Investing in the Future: NSF Cost Sharing Policies for Sustaining a Robust Federal Research Enterprise* (draft for public comment [NSB/CS-08-18](#)). CSB approved the draft report for release for public comment. *[The full Board subsequently approved this draft report, subject to minor edits approved by the Chairman of the Board and the task force chairman.]* (See 1.k.)

g. Task Force on the NSB 60th Anniversary (60ANN)

Dr. Galloway, 60ANN chairman, led the discussion of the goals and activities associated with the celebration of the NSB 60th anniversary in 2010. The anniversary commemoration goals may include: a half-day workshop that highlights researchers; identification of state and national student competitions and selection of national winners; posters and media coverage associated with the researchers and 60 great accomplishments; and an anniversary dinner to recognize researchers and student competition winners. Selection criteria for identifying researchers were agreed to as well as a recommended schedule of actions for implementing the various anniversary activities. Additionally, NSF agreed to establish a management implementation committee to commemorate the 60th Anniversary of NSF, and work jointly with the Task Force on the NSB 60th Anniversary. (See 1.j.)

[signed]
Craig R. Robinson
Acting Executive Officer