

MEMORANDUM TO MEMBERS AND CONSULTANTS OF THE NATIONAL SCIENCE BOARD

SUBJECT: Summary Report of the August 12-13, 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 August 2008 meeting are provided. This memorandum will be publicly available for review. The minutes of the Plenary Open Session for the August 2008 meeting will be posted on the Board's public Web site (<http://www.nsf.gov/nsb/>), following Board approval at the September 2008 meeting.

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

- a. The Board approved the minutes of the Plenary Open Session (NSB-08-58) for the May 2008 meeting (<http://www.nsf.gov/nsb/meetings/2008/0506/minutes.pdf>). Minutes for the Plenary Executive Closed and Closed Sessions for the May 2008 meeting of the Board were also approved.
- b. The Board approved a resolution to close portions of the upcoming September 22-23, 2008 Board meeting dealing with staff appointments; future budgets; grants and contracts; specific Office of the Inspector General investigations and enforcement actions; and National Science Foundation (Foundation, NSF) participation in a civil or administrative action, proceeding, or arbitration (<http://www.nsf.gov/nsb/meetings/2008/0922/closing.pdf>).
- c. Dr. Kathryn Sullivan was elected to the Executive Committee to complete the unexpired term (May 2007 – May 2009) created by the election of Dr. Patricia Galloway as Board Vice Chairman in May 2008.
- d. The Board authorized the NSF Director, at his discretion, to make an award to Rutgers University for Management of the Protein Data Bank by the Research Collaboratory for Structural Biology (NSB-08-61).
- e. The Board authorized the NSF Director, at his discretion, to make an award to the National Opinion Research Center (NORC) for the General Social Survey: FY 2009 – 2013 (NSB-08-62).
- f. The Board authorized the NSF Director, at his discretion, to make an award to the University of California at San Diego for the Expansion of Funding for the Temporal Dynamics of Learning Center (TDLC) (NSB-08-65).

- g. The Board authorized the NSF Director, at his discretion, to make an award to Temple University for the Continuing Funding for the Spatial Intelligence and Learning Center (SILC) (NSB-08-63).
- h. The Board authorized the NSF Director, at his discretion, to make an award to Gallaudet University for the Expansion of Funding for the Visual Language and Visual Learning Center (VL2) (NSB-08-64).
- i. The Board approved the draft charge and workplan for an EHR Expert Panel Discussion on Preparing the Next Generation of STEM Innovators, subject to final edits approved by the Board Chairman and the Committee on Education and Human Resources chairman.
- j. The Board approved a schedule of NSB meetings for calendar year 2009 (NSB-08-70). (Attachment)
- k. The Board approved the draft *Report to Congress on Interdisciplinary Research at the National Science Foundation* (NSB/_CPP-08-34), subject to final edits approved by the Board Chairman and Committee on Programs and Plans chairman. [Final report: NSB-08-80]
- l. The Board approved the draft *Report to Congress on Limits on Proposal Submissions by Institution* (NSB/CSB-08-12), subject to final edits approved by the Board Chairman and Committee on Strategy and Budget chairman. [Final report: NSB-08-81]
- m. The Board Chairman discharged the *ad hoc* Committee on Nominating for NSB Elections, established in July 2008, with special thanks to Dr. Kelvin Droegemeier, chairman, and members Drs. Douglas Randall, Thomas Taylor, and Richard Thompson.
- n. The Board Chairman announced the members of the Task Force on the NSB 60th Anniversary: Dr. Patricia Galloway, chairman, and members Drs. Camilla Benbow, John Bruer, José-Marie Griffiths, Douglas Randall, Kathryn Sullivan, and Thomas Taylor.
- o. The Board Chairman established the *ad hoc* Committee on Nominations for NSB Class of 2010 – 2016, with Dr. Alan Leshner as chairman. Members of this committee will be announced by the next Board meeting.
- p. The Board Chairman established the *ad hoc* Committee for the Vannevar Bush Award with Dr. Kathryn Sullivan as chairman. Members of this committee will be announced at a later date.
- q. The Board approved the extension of the charge to the Task Force on Cost Sharing through February 2010 (NSB-07-110 dated October 9, 2007 and Revised July 15, 2008). The charge was due to expire in 2008.

2. Board Chairman's Report

Dr. Steven Beering, Board Chairman, reported that in Plenary Executive Closed Session, the Board elected Dr. Sullivan to serve as a member of the Executive Committee from 2008 to 2009, replacing Dr. Galloway who was elected as Vice Chairman in May 2008. (See 1.c.)

He recognized Dr. Dan Arvizu who received a lifetime contribution award from the World Renewable Energy Congress at its conference held in Glasgow, Scotland in July 2008. He was the first recipient of this special award in recognition of his many years of leadership in renewable energy.

Dr. Beering also had several Board Office staff announcements:

- Dr. Russell Moy, Senior Policy Analyst and Attorney-Advisor, accepted a position in June 2008 as Senior Advisor and General Counsel for the Southeastern Universities Research Association.
- Ms. Kim Silverman joined the Board Office in July 2008 as a Program Manager and Writer-Editor. She previously served as Program Manager of the Antarctic Artists and Writers Program and as the Office of Polar Programs Outreach Coordinator.
- Two Board Office staff members are on detail from NSF: Dr. Barbara Ransom, from the Directorate for Geosciences (GEO), to assist with the Task Force on Sustainable Energy and the limiting proposals report to Congress; and Ms. Beverly Sherman, from the Division of Information Systems (DIS), to coordinate the logistics for the Board meeting in Alaska in September 2008.

Dr. Beering reported that the NSF Authorization Act of 2002, Section 14 requires that the Board report to Congress any delegations of authority, by September 15 each year, related to the use of the Major Research Equipment and Facilities Construction (MREFC) account. There has been no delegation of authority related to MREFC during the last year.

The NSF General Counsel wrote a memo to the Board regarding gifts to NSB. Generally, gifts should not be solicited or accepted from a source that is doing business with or seeking to do business with the Foundation. Donations from for-profit companies not doing business with the Foundation may be accepted only to the extent that they are consistent with generally accepted public standards. In the past, the Board solicited gifts from private individuals and charitable foundations.

The Board approved the proposed 2009 calendar for Board meeting dates (NSB-08-70), which consists of five meetings during the 2009 calendar year. (Attachment) (See 1.j.)

The Board Chairman made committee announcements regarding the *ad hoc* Committee on Nominating for NSB Elections, informally known as the Elections Committee; Task Force on the NSB 60th Anniversary, which was established at the May 2008 meeting; the *ad hoc* Committee on Nominations for NSB Class of 2010 – 2016, informally known as the Nominations Committee; and the *ad hoc* Committee for the Vannevar Bush Award. (See 1.m. – 1.p.)

3. NSF Director's Report

Dr. Arden Bement, NSF Director, announced the following awards:

- Dr. Cora Marrett, Assistant Director, NSF Directorate for Education and Human Resources (NSF EHR), received the 2008 American Sociological Association's Cox-Johnson-Frazier Award.
- Ms. Joanna Rom, Deputy Director, Office of Budget, Finance, and Award Management (BFA), was awarded the National Council of University Research Administrator's Joseph F. Carrabino Award for 2008.
- Mr. Thomas Cooley, NSF Chief Financial Officer, was awarded the Association of Government Accountants 2008 National President's Award.

Dr. Bement introduced the following new NSB staff:

- Dr. James H. Wyche, Division Director, Division of Human Resource Development, NSF EHR (as of June 8, 2008).
- Dr. Timothy Killeen, Assistant Director, Directorate for Geosciences (GEO) (as of July 1, 2008).
- Dr. Edward Seidel, Director, Office of Cyberinfrastructure (OCI) (as of September 1, 2008).

Dr. Bement also announced the following departures:

- Dr. Marta Cehelsky, Senior Advisor, Office of Integrative Activities (OIA), (as of June 30, 2008).
- Dr. Richard Buckius, Assistant Director, Directorate for Engineering (ENG), (as of September 1, 2008).

The NSF Director reported that the Office of Legislative and Public Affairs (OLPA) created a partnership with *U.S. News & World Report*, which allowed the national magazine to hire a science editor and bring back its Science Section. Stories about NSF-funded science are included in the new Science Section each week. The editors of *U.S. News* worked with OLPA to create a special edition and cover story called "Frontiers of Science." The stories include interviews with more than a dozen NSF-funded scientists and researchers on a number of important science and engineering issues.

For a congressional update, Dr. Bement reported that he testified before the House Transportation and Infrastructure Subcommittee on Coast Guard and Maritime Transportation on U.S. ice-breaking on July 16, 2008. As for appropriations, both the Senate and House Appropriations Committees provided NSF's full request for an increase of \$789 million, or 13 percent over last year's appropriated levels. Lastly, on June 30, 2008, the President signed the War Supplemental Bill into law, which included \$62.5 million for NSF. NSF's Research and Related Activities account received an additional \$22.5 million, of which \$5 million was designated for the Experimental Program to Stimulate Competitive Research (EPSCoR) program. The NSF EHR Directorate received a total of \$40 million for the Robert Noyce Scholarship program.

4. Board Committee Reports

a. Executive Committee

Dr. Arden Bement, NSF Director, informed the committee about the Foundation's plans to recruit new Assistant Directors for ENG and Social, Behavioral, and Economic Sciences (SBE). He also presented the investment plan for the \$62.5 million NSF received in the FY 2008 supplemental appropriation. He reported on NSF's plan to contribute in FY 2008 to the Human Frontier Science Program and renew the Federally Funded Research and Development Center contract with the Institute for Defense Analyses for the operation of the Science and Technology Policy Institute.

b. Audit and Oversight (A&O) Committee

Dr. Dan Arvizu, A&O chairman, reported for Mr. Cooley on the progress of the resolution of issues from the FY 2007 audit. He noted that the FY 2008 Financial Statement Audit is proceeding on schedule and that NSF's internal controls processes, the program sometimes referred to as "A-123," is on schedule for full implementation in FY 2008, as required by law.

Dr. David Spencer, chairman of the Advisory Committee for GPRA Performance Assessment (AC/GPA), reported on the committee's meeting of June 19-20, 2008. Dr. Spencer also noted that NSF fully and satisfactorily responded to each recommendation made in the 2007 report. The advisory committee's 2008 report includes four recommendations to further improve the assessment process <http://www.nsf.gov/about/performance/>.

Mr. James Noeth, Deputy Associate Inspector General for Audits, Office of the Inspector General (OIG), presented the preliminary results of a series of audits conducted by OIG on labor-effort costs charged to NSF grants.

The A&O chairman noted the growing interest and concern within the international community for the need to standardize expectations pertaining to the accountability of international collaborative research projects. He requested that NSF management and OIG meet before the next A&O meeting to discuss these concerns.

In A&O Closed Session, the committee was briefed about pending investigations.

c. Education and Human Resources (EHR) Committee

Dr. Bruer, EHR chairman, invited the NSF EHR Directorate to provide regular updates to the committee and expressed his interest for EHR representatives to attend EHR committee meetings. He thanked committee members for recommending discussion topics that could be raised at the retreat, and suggested that the committee may wish to also discuss how to produce robust reports intended to inform and advise policymakers given resource limitations.

As follow up to the *National Action Plan for Addressing the Critical Needs of the U.S. Science, Technology, Engineering, and Mathematics Education System (NSB-07-114)*, the committee approved a draft charge and workplan for the EHR Committee, led by an *ad hoc* task group. The task group would identify strategies for increasing the number of STEM innovators in the next

generation and develop recommendations for NSF. The task group would convene a 2-day workshop in early 2009, develop a draft report for Board approval for publication in December 2009, and publish the report in February 2010. [*The full Board subsequently approved the draft charge and workplan.*] (See 1.i.)

EHR Subcommittee on Science and Engineering Indicators (SEI)

The subcommittee meeting was devoted to a discussion of the chapter outlines for *Science and Engineering Indicators 2010*. Board Members highlighted various issues for which presentation of relevant data could enrich the national discussion. Mr. Rolf Lehming, Science Resources Statistics (SRS) Director for the Science and Engineering Indicators Program (SBE), reviewed the process and schedule for producing *Indicators 2010*. Dr. Louis Lanzerotti, SEI chairman, reminded the subcommittee and Board Members of their vital role as chapter reviewers and lead reviewers, as well as their roles in deciding on the content of the Companion Piece and Digest.

d. Committee on Programs and Plans (CPP)

Dr. Dana Lehr, Program Officer, Division for Astronomical Sciences, Directorate for Mathematical and Physical Sciences (MPS), presented an information item on the Competition for the Award of a Cooperative Agreement for the Management and Operation of the National Astronomy and Ionosphere Center (NAIC). Consistent with the NSB Resolution on Competition and Recompetition of NSF Awards (NSB-08-12), NSF will solicit proposals for a new, 5-year cooperative agreement for the management and operation of NAIC through an open, competitive, merit-based review process. NSF expects to issue a solicitation in November 2008, and will bring an action item to the Board in December 2009. The committee asked that NSF provide the Board with an opportunity to review the solicitation prior to its release.

Dr. Kathie Olsen, NSF Deputy Director, provided a comprehensive review of NSF's MREFC projects that are currently under construction, in the advanced planning stage, and the one project that is in the readiness stage. In September 2008, Dr. Olsen will provide a status report on future projects, and will continue discussion with the Board on important policy topics raised.

Dr. Mark Abbott reported on the committee's progress in developing a proposal for a revision to the MREFC process. He presented a proposal for changes to the MREFC process; the committee will continue discussion of this issue in September 2008.

Dr. Lanzerotti presented an update on the draft *Report to Congress on Interdisciplinary Research at the National Science Foundation* (NSB/CPP-08-34). The America COMPETES Act asked for a general assessment of NSF's support for interdisciplinary research and a recommendation for what proportion of NSF's budget should be set aside for interdisciplinary research. (COMPETES: Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science.) A draft report, was approved by the committee. [*The full Board subsequently approved the draft report.*] (See 1.k.)

Lastly in CPP Open Session, Dr. Buckius provided a science presentation entitled, "Our World is Engineered."

In CPP Closed Session, the committee approved five action items. [*The full Board subsequently approved the five award resolutions.*] (See 1.d. – 1.h.) The committee also heard an information item on the status of NSF’s High Performance Computing (HPC) awards.

CPP Subcommittee on Polar Issues (SOPI)

Dr. Karl Erb, Director, Office of Polar Programs (OPP), cited a recent *Nature* journal article describing the impact of rising fuel costs on polar research. He also provided a brief update on the request for proposal for Antarctic support and summarized discussions at the recent OPP Advisory Committee meeting. Dr. Erb then mentioned a few International Polar Year highlights: an agreement with the Danish weather service, Greenland, NSF, and NASA for data-sharing that supports both short term weather forecasting and research on climate change; World Meteorological Organization interest in building on the NSF-funded Arctic Observing Network; and Canadian plans to invest up to \$1 billion for polar infrastructure.

Dr. William Wiseman, Arctic Natural Sciences Program Manager, OPP Division of Arctic Sciences, provided a brief update on Arctic sea ice loss. Mr. Brian Stone, Acting Division Director, OPP Division of Antarctic Infrastructure and Logistics, and Dr. Scott Borg, Division Director, OPP Division of Antarctic Sciences, reported on the impact of fuel cost increases on Antarctic polar operations and science, respectively.

CPP Task Force on Sustainable Energy (SE)

The task force reviewed the previous roundtable discussion held on June 19, 2008 at the National Renewable Energy Laboratory in Golden, Colorado. Discussion topics during the roundtable included renewable and cleaner energy technologies as well as education initiatives in the sustainable energy sector.

The task force also discussed the upcoming roundtable on September 4, 2008 at the University of California, Berkeley, Clark Kerr Campus Conference Center. The current roundtable agenda includes the following four discussion sessions: Regulatory Environment for Sustainable Energy Research; Energy, Environment, Economics, and S&E Policy; Public-Private Investment in Sustainable Energy Research; and Public Awareness and Education about Global Sustainability and Sustainable Energy.

e. Committee on Strategy and Budget (CSB)

Dr. Robert Webber, Board Office, summarized a draft report, *Report to Congress on Limits on Proposal Submissions by Institution (NSB/CSB-08-12)*. This report was prepared in response to a directive in the America COMPETES Act. The Board Office agreed to work with NSF to provide additional information about award amounts resulting from solicitations involving institutional limits. The committee approved a draft of the report. [*The full Board subsequently approved this report.*] (See 1.1.)

In CSB Closed Session, Dr. Bement discussed development of the FY 2010 NSF budget.

CSB Task Force on Cost Sharing (CS)

Dr. Droegemeier, CS chairman, reported on the results of the July 9 and 10, 2008 roundtable discussions. A notice was placed in the *Federal Register* inviting the public to comment on cost sharing issues. Dr. Bement agreed to help publicize the comment opportunity by sending a Dear Colleague letter.

The CS chairman described the need for revising the charge to the Task Force on Cost Sharing to extend the timeline, from 2008 to February 2010, to give the task force time to complete a second, more comprehensive, report on issues related to the NSF cost sharing policy (NSB-07-110 dated October 9, 2007 and Revised July 15, 2008). The extension of the task force charge will also permit monitoring of NSF's implementation of the Board's cost sharing recommendations. *[The full Board subsequently approved the extension of the CS charge.]* (See 1.q.)

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

Dr. Galloway, 60ANN chairman, described and compared the activities and events that commemorated the 40th and 50th anniversaries of NSB and NSF. Board Members provided initial suggestions and ideas for honoring the 60th Anniversary in December 2010.

[signed]

Craig R. Robinson
Acting Executive Officer

Attachment: NSB-08-70, NSB Calendar of Meetings 2009

NATIONAL SCIENCE BOARD
CALENDAR OF MEETINGS
2009

February 23 - 24
(Monday - Tuesday)

May 13 - 14
(Wednesday - Thursday)
[Annual Meeting and Awards Dinner]

August 5 - 6
(Wednesday - Thursday)

September 23 - 24
(Wednesday - Thursday)
[Annual Retreat and Visit]

December 9 - 10
(Wednesday - Thursday)