

MEMORANDUM TO MEMBERS OF THE NATIONAL SCIENCE BOARD

SUBJECT: Summary Report of the May 6-7, 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 May 2008 meeting are provided. This memorandum will be publicly available for review. The minutes of the Plenary Open Session for the May 2008 meeting will be posted on the Board's public Web site (<http://www.nsf.gov/nsb/>), following Board approval at the August 2008 meeting.

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

- a. The Board approved the minutes of the Plenary Open Session (NSB-08-40) for the March 2008 meeting (<http://www.nsf.gov/nsb/meetings/2008/0326/minutes.pdf>). Minutes for the Plenary Executive Closed and Closed Sessions for the March 2008 meeting of the Board were also approved.
- b. The Board approved a resolution to close portions of the upcoming August 12-13, 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 (NSF) participation in a civil or administrative action, proceeding, or arbitration (<http://www.nsf.gov/nsb/meetings/2008/0812/closing.pdf>).
- c. Dr. Steven Beering was elected to a 2-year term as Chairman of the Board and Dr. Patricia Galloway was elected to a 2-year term as Vice Chairman. Drs. Beering and Galloway were elected by acclamation to 2-year terms as members of the Executive Committee.
- d. The Board authorized the NSF Director, at his discretion, to make an award to the Mellon Pitt Carnegie (MPC) Corporation for support of proposal entitled, Transforming Science through Productive Petascale Computing.
- e. The Board authorized the NSF Director, at his discretion, to make an award to the University Corporation for Atmospheric Research (UCAR) for the management and operation of the National Center for Atmospheric Research (NCAR).
- f. The Board accepted the 2007 Annual Report of the Executive Committee as presented by the committee chairman, Dr. Arden L. Bement, NSF Director (NSB/EC-08-5) (Attachment).

- g. The Board Chairman established a Task Force for the NSF 60th Anniversary. Members of this task force will be announced at a later date.
- h. The Board Chairman discharged the *ad hoc* Committee for the Vannevar Bush Award with thanks to Dr. Kathryn Sullivan, chairman, and members Drs. Kelvin Droegemeier, Patricia Galloway, Jose'-Marie Griffiths, and Thomas Taylor.
- i. The Board Chairman discharged the *ad hoc* Committee on Nominating for NSB Elections, with thanks to Dr. Elizabeth Hoffman, chairman, and members Drs. Ray Bowen, Douglas Randall, and Jo Anne Vasquez.
- j. The Board approved the transmittal letter and management response for the NSF Office of Inspector General's *Semiannual Report to Congress, March 2008*.

2. Board Chairman's Report

Dr. Steven Beering, Board Chairman, recognized and thanked Board Members of the Class of 2008, who completed their service with the May 2008 Board Meeting: Drs. Barry Barish, Ray Bowen, Kenneth Ford, Daniel Hastings, Karl Hess, Elizabeth Hoffman, Douglas Randall, and Jo Anne Vasquez.

The Chairman also recognized and thanked the following Board Executive Secretaries, who have served their committees for a number of years and will be retiring from NSF after the May 2008 meeting: Dr. Lorretta Hopkins, Education and Human Resources Committee; and Dr. Alan Rapoport, Subcommittee on Science and Engineering Indicators. Additionally, the following Board Executive Secretaries were recognized: Mr. Bruce Carpel and Ms. Joanna Rom, Audit and Oversight Committee; Ms. Sonya Mallinoff and Ms. Patricia Crumley, Committee on Programs and Plans; and Dr. Joan Frye, Subcommittee on Polar Issues.

Dr. Beering announced that, in the Plenary Executive Closed Session, the Board re-elected him as Chairman and Dr. Patricia Galloway as Vice Chairman for the 2008 - 2010 term. Both Drs. Beering and Galloway will also serve as members of the Executive Committee from 2008 to 2010. (See 1.c.)

Dr. Beering reported on the annual Awards Ceremony and Dinner at the Department of State's Diplomatic Reception Rooms, where the Board was honored to receive a message from President George W. Bush. The following honorary award recipients were recognized for their distinguished contributions:

- Mr. Norman H. Augustine, Retired Chairman and Chief Executive Officer, Lockheed Martin Corporation received the Vannevar Bush Award (Mr. Augustine's award was accepted by his daughter, Ms. Rene' Augustine Alaire), and
- Dr. Terence C. Tao, Professor of Mathematics, University of California, Los Angeles, received the Alan T. Waterman Award.

Although there was no individual NSB Public Service Award this year, there were two group NSB Public Service Awards:

- Bayer Corporation, and
- SAE International.

The Chairman announced to Board Members that they will be polled in the upcoming weeks for the 2009 calendar of Board meeting dates to ensure attendance by the highest number of Members possible. The Board Office will provide a draft 2009 meeting schedule to all Board Members before the August meeting.

Dr. Beering made four committee announcements: He discharged the *ad hoc* Committee for the Vannevar Bush Award. (See 1.h.) Also discharged was the *ad hoc* Committee on Nominating for NSB Elections. (See 1.i.) He established the Board's Task Force for the NSF 60th Anniversary, which will occur in 2010. (See 1.g.) Board Members to serve on *ad hoc* Committee on NSB Nominations for the Class of 2010 – 2016 will be appointed before the August 2008 meeting.

3. NSF Director's Report

Dr. Arden Bement, NSF Director, reported that, in March 2008, Mr. Tom Cooley, NSF Chief Financial Officer, was awarded the Special Achievement Award by the National Grants Management Association for continued, dedicated commitment and leadership of grants management streamlining and improvement initiatives.

Dr. Bement announced that Dr. Fae Korsmo accepted the position of Senior Advisor in the Office of the Director. She will be coordinating NSF's efforts to broaden participation from underrepresented groups and diverse institutions across all geographic regions in all NSF activities. She received her Ph.D. from the University of New Mexico.

For the congressional update, Dr. Bement reported on two hearings. On April 2, 2008, he testified at the Subcommittee on Research and Science Education, House Committee on Science and Technology hearing on "International Science and Technology Cooperation." On April 24, 2008, there was a joint hearing with the Subcommittee on Research and Science Education, House Committee on Science and Technology, and the Armed Services Subcommittee on Terrorism, Unconventional Threats, and Capabilities. The purpose of the joint hearing was to explore the role of the social and behavioral sciences in national security.

He also reported on the following two upcoming hearings. On May 8, 2008, the House Committee on Science and Technology will hold a hearing on "Fulfilling the Potential of Women in Academic Science and Engineering Act of 2008." On May 12, 2008, the House Committee on Science and Technology will hold a field hearing on "STEM Education Before High School: Shaping our Future Science, Technology, Engineering and Math Leaders of Tomorrow by Inspiring our Children Today."

4. Board Committee Reports

a. Executive Committee

The committee endorsed the 2007 Annual Report of the Executive Committee, which summarized the activities from May 2007 through April 2008. [*The EC Annual Report was subsequently accepted by the full Board.*] (See 1.f.)

Dr. Bement also presented a memorandum of understanding between the U.S. Agency for International Development (USAID) and NSF, signed on April 30, 2008, regarding shared and complementary goals.

b. Audit and Oversight (A&O) Committee

A&O Open Session

Dr. Christine Boesz, NSF Inspector General, discussed the Office of Inspector General (OIG) *Semiannual Report to Congress, March 2008*, and Dr. Joan Frye relayed the management response with data tables. The committee approved the letter for the report and recommended that the full Board approve it. [*The full Board subsequently approved the transmittal letter and management response.*] (See 1.j.)

Dr. James Lightbourne and Mr. Max Bronstein of the Office of the Director and Ms. Beth Ann Velo of the Office of Budget, Finance, and Award Management (BFA) reported on the *Report to the National Science Board on the National Science Foundation's Merit Review Process, Fiscal Year 2007*. The committee made several suggestions for material to be included in the report. Mr. Cooley gave an update on the progress that has been made in resolving the FY 2007 audit findings and the considerable work underway to ensure full implementation in FY 2008 of OMB Circular A-123 - "Management's Responsibility for Internal Control."

Mr. Sal Ercolano, Partner-in-Charge with Clifton Gunderson, presented information on the agency's 2008 audit. Mr. Ercolano stated that the auditors will test controls over financial and electronic data processing (EDP) operations and compliance with laws and regulations. The auditors will review NSF's progress in addressing significant deficiencies cited in last year's audit.

A&O Closed Session

The OIG presented information about ongoing investigations.

c. Education and Human Resources (EHR) Committee

Dr. Vasquez reported on the activities related to the Science, Technology, Engineering, and Mathematics (STEM) Action Plan, and noted that legislation was introduced on the Hill, which included recommendations of the STEM Action Plan.

The committee heard two presentations: Dr. Brian Fitzgerald and Mr. Chris Roe of the Business - Higher Education Forum, on “Strengthening U.S. STEM Education through New Models of Collaboration;” and Dr. Mary John O’Hair and Dr. Linda Atkinson, from the University of Oklahoma on the “K20 Model for Innovating Systemic Change.”

Dr. Benbow briefed the committee on the Final Report of the National Mathematics Advisory Panel, of which she has been a member. She and Dr. Joan Ferrini-Mundy of the NSF EHR Directorate, provided a comprehensive review of a report of the National Mathematics Advisory Panel that was released in March 2008 to the Department of Education. The panel covered a broad set of questions on how to prepare children for algebra.

Dr. Benbow also reviewed the status of progress since March 2008 on the draft document, “Preparing the Next Generation of STEM Innovators.” Dr. Benbow proposed that a 1-day discussion be held at NSF in early 2009 to develop a white paper on how NSF could foster the development of the next generation of innovators. The *ad hoc* working group for this topic will prepare a draft charge for discussion at the August 2008 meeting and schedule a briefing with NSF staff in connection with the December 2008 Board meeting.

d. EHR Subcommittee on Science and Engineering Indicators (SEI)

Mr. Arthur Reilly briefed the subcommittee on his meeting and presentation on *Science and Engineering Indicators 2008 (Indicators)* and the Companion Piece in April 2008 with the President’s Council of Advisors on Science and Technology (PCAST). The Subcommittee Chairman, Dr. Louis Lanzerotti, reviewed the subcommittee’s activities concerning *Indicators 2010 Indicators*, and discussed some final thoughts before the authors begin preparing their chapter outlines for discussion at the August 2008 subcommittee meeting.

e. Committee on Programs and Plans (CPP)

CPP Open Session

NSF presented an information item on a future action item on a 5-year Cooperative Agreement proposal from Association of Universities for Research in Astronomy (AURA) to manage and operate the National Optical Astronomy Observatory (NOAO) and National Solar Observatory (NSO). NSF will bring a recommendation before the Board in September 2008. NSF also presented information on the Protein Data Bank. The current award is under recompetition, and an action will come before the Board in August 2008.

Dr. Mark Abbott provided the committee with an update on activities related to the Major Research Equipment and Facilities Construction (MREFC) process. Currently under discussion is a proposed revision to the process that would have three Board-approval steps: from the conceptual design to the preliminary design stage; from the preliminary design to the final design stage; and from the final design stage to initiation of construction. Dr. Abbott will continue to work with NSF on issues concerning this proposed revision, and a discussion on this topic will be held at the August 2008 meeting.

Dr. Louis Lanzerotti provided a brief summary of the process to date in drafting a report to Congress on Interdisciplinary Research. He outlined the key points of the report and a revised draft will be prepared and submitted to the committee for comment electronically in mid-May 2008, with the goal of presenting a final report to the full Board for approval at the August 2008 meeting.

The committee heard a science presentation titled, “The Intertwinement of Fundamental Work in the SBE and Natural Sciences” by Dr. David Lightfoot, Assistant Director, Directorate for Social, Behavioral, and Economic Sciences (SBE).

CPP Closed Session

The committee considered and approved two action items and forwarded them to the full Board for approval:

- Transforming Science through Productive Petascale Computing: Award to the Mellon Pitt Carnegie (MPC) Corporation (NSB-08-43)
- National Center for Atmospheric Research (NCAR): Management and Operation by the University Corporation for Atmospheric Research (UCAR) (NSB-08-44).

[The full Board subsequently approved the above resolutions.] (See 1.d. – 1.e.)

f. CPP Subcommittee on Polar Issues (SOPI)

Dr. Karl Erb, Director, Office of Polar Programs, reported that a draft statement of objectives for the forthcoming request for proposal for the support contract for the U.S. Antarctic Program was released a week earlier.

The subcommittee heard the following presentations: Dr. Kelly Falkner, Program Director for Integrated and System Science, Division of Antarctic Sciences, provided an overview of sea ice trends at both poles. Drs. Simon Stephenson and Scott Borg, Division Directors for Arctic and Antarctic Sciences, respectively, described a few of the recent international collaborative efforts that have taken place or are emerging.

g. CPP Task Force on Sustainable Energy (SE)

The task force discussed the upcoming roundtable discussion on June 19, 2008 at the National Renewable Energy Laboratory in Golden, Colorado. The task force reviewed a revised draft agenda and list of speakers and participants for the roundtable. SE also discussed plans and reviewed a preliminary agenda for the third roundtable discussion in the fall 2008.

h. Committee on Strategy and Budget (CSB)

Background issues and recent activities about open access to scholarly literature were summarized for the committee. The following panel gave CSB an informational presentation on the topic: Mr. George Strawn, NSF Chief Information Officer; Dr. Clifford Lynch, Executive Director, Coalition for Networked Information; and Dr. Stuart Shieber, Director, Center for Research on Computation and Society at Harvard University.

A draft outline of a Board report to Congress on proposal limitations, as specified in the America COMPETES Act, was summarized. The Board Office worked with NSF staff to obtain relevant data and analyses, NSF advisory committees were asked to comment on impacts of proposal limits, and in-depth interviews were conducted with a couple of institutions that have experience selecting and submitting proposals in response to solicitations with institutional limits. The committee is on schedule to bring a report to the Board for approval at the August 2008 meeting.

Due to time constraints, the scheduled presentation on the NSF Long-Range Plan was postponed until the August 2008 meeting. Dr. Bement provided a brief summary of the revised status of the 2010 budget development process. Continued discussion of major budget issues and opportunities will also be held at the August 2008 meeting.

i. CSB Task Force on Cost Sharing (CS)

The task force discussed agendas for its upcoming roundtable discussions on voluntary cost sharing and the implications of cost sharing for broadening participation in NSF-funded research, to be held on July 9 and July 10, 2008. The task force heard a presentation from Mr. Cooley on NSF's activities related to the Board's report to Congress on NSF cost sharing policies issued on February 8, 2008. Lastly, the task force discussed progress in the following areas of its study of cost sharing policy: questions sent to NSF advisory committees to gather qualitative input on several key issues; the issuance of a formal Board resolution to amend its 2004 resolution that eliminated mandatory cost sharing for all NSF programs, prior to the release of the Board's second report on NSF cost sharing policy; and data collection to inform the upcoming roundtable discussions and the second report on NSF cost sharing policy.

[signed]

Craig R. Robinson
Acting Executive Officer

Attachment: [NSB/EC-08-5](#), 2007 Annual Report of the Executive Committee

**2007 Annual Report of the Executive Committee
National Science Board**

In accordance with the requirements of 42 U.S.C. § 1865 (d), I hereby submit this annual report of the National Science Board (Board, NSB) Executive Committee, as approved at the Executive Committee meeting on May 7, 2008. This report covers the period from May 2007 through April 2008. I served as Director of the National Science Foundation and the Board's Executive Committee chairman during the above time period.

The elected Board membership of the Executive Committee during the past year was as follows:

From May 1, 2007 to May 10, 2007:

Dr. Barry C. Barish

Dr. Steven C. Beering

Dr. Ray M. Bowen

Dr. Kathryn D. Sullivan

From May 11, 2007 to April 30, 2008:

Dr. Mark R. Abbott

Dr. Steven C. Beering

Dr. Patricia D. Galloway

Dr. Kathryn D. Sullivan

The following served as Executive Secretary of the Executive Committee: from May to December 2007, Dr. Michael P. Crosby, NSB Executive Officer; from January to April 2008, Dr. Craig R. Robinson, NSB Acting Executive Officer.

The Executive Committee met three times during this period (May 2007, August 2007, and February 2008) at the National Science Foundation in Arlington, Virginia. Oral reports of its activities were made at meetings of the full Board and are reflected in the minutes of those meetings.

The Executive Committee's powers and functions are based on a delegation of authority to it by the Board according to 42 U.S.C. § 1865(a). The Board's current delegation to the Executive Committee (Attachment B to NSB-99-158) authorizes the Executive Committee to approve awards on behalf of the Board when an immediate decision is required between Board meetings and when the necessary action is not within the authority of the Director of the National Science Foundation. There were no occurrences of this condition or Executive Committee actions on behalf of the Board during the above time period.

[signed]

Arden L. Bement, Jr.

Chairman

Executive Committee