

MEMORANDUM TO MEMBERS AND CONSULTANTS OF THE NATIONAL SCIENCE BOARD

SUBJECT: Summary Report of the May 4-5, 2010 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 2010 meeting are provided. This memorandum is also made available for public review. The minutes of the Plenary Open Session for the May 2010 meeting will be posted on the Board's public Web site (<http://www.nsf.gov/nsb/>) following Board approval at the August 2010 meeting.

1. Major Actions and Approvals at the 414th NSB Meeting (not in priority order):

- a. The Board authorized the NSF Director, at his discretion, to make an award for Hawaii COMPETES: Connecting Hawaii to the National Cyberinfrastructure, University of Hawaii.
- b. The Board authorized the NSF Director, at his discretion, to make an Award for the National Center for Atmospheric Research (NCAR) Wyoming Supercomputer Center Construction Project, University Corporation for Atmospheric Research (UCAR).
- c. The Board authorized the NSF Director, at his discretion, to make an Award for Construction of the National Ecological Observatory Network (NEON).
- d. The Board authorized the NSF Director, at his discretion, to make awards for support of seven FY 2010 Research Infrastructure Improvement Program (RII) Track-1 Awards from the Experimental Program to Stimulate Competitive Research (EPSCoR) for the following jurisdictions: Arkansas, Louisiana, Nebraska, Puerto Rico, Rhode Island, Tennessee, and West Virginia.
- e. Dr. Ray Bowen was elected to a 2-year term as Chairman of the Board, and Dr. Esin Gulari was elected to a 2-year term as Vice Chairman. Drs. Bowen and Gulari were elected by acclamation to 2-year terms as members of the Executive Committee.
- f. The Board accepted the 2009 Annual Report of the Executive Committee as presented by the committee chairman, Dr. Bement, NSF Director ([NSB/EC-10-4](#)) (Attachment).
- g. The Board approved the "Next Generation of STEM Innovators" White Paper, subject to final edits by the Board Chairman and the chairman of the Committee on Education and Human Resources.
- h. The Board approved the *Indicators* Education Tool, subject to final edits by the Board Chairman and the chairman of the Committee on Science and Engineering Indicators.

- i. The Board approved the charge and workplan for the Task Force on Merit Review.
- j. The Board Chairman discharged the *ad hoc* Committee on Nominating for NSB Elections, informally known as the Elections Committee, with thanks to Dr. Leshner, chairman, and Drs. Droegemeier, Gulari, and Randall, members.
- k. The Board Chairman discharged the *ad hoc* Committee on Honorary Awards with thanks to Dr. Bowen, chairman, and Drs. Randall and Taylor, members.
- l. The Board approved the transmittal letter and management response for the NSF Office of Inspector General's *Semiannual Report to Congress, March 2010*.
- m. The Board approved the minutes of the Plenary Open Session (NSB-10-18) for the February 2010 meeting (<http://www.nsf.gov/nsb/meetings/2010/0203/minutes.pdf>). Minutes for the Plenary Executive Closed (NSB-10-16) and Plenary Closed (NSB-10-17) Sessions for the February 2010 meeting of the Board were also approved.
- n. The Board approved a resolution to close portions of the upcoming August 25-26, 2010 Board meeting dealing with staff appointments; future budgets, honorary awards; 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/2010/0825/closing.pdf>) (NSB-10-22).

2. Board Chairman's Report

Dr. Steven Beering, NSB Chairman and Member of the Class of 2010, recognized and thanked Board Members of the Class of 2010 who completed their service with the May 2010 Board meeting: Drs. Dan Arvizu, G. Wayne Clough, Kelvin Droegemeier, Louis Lanzerotti, Alan Leshner, Jon Strauss, and Kathryn Sullivan.

The Chairman also recognized and thanked the following Board Executive Secretaries, who served their committees for the past 2 years: Dr. Robert Bell, Mr. Bruce Carpel, Ms. Jo Culbertson, Mr. Darren Dutterer, Ms. Ann Ferrante, Dr. Clifford Gabriel, Dr. Jill Karsten, Mr. Rolf Lehming, Ms. Lisa Lewis, Ms. Sonya Mallinoff, Ms. Patricia McNamara, Ms. Jennifer Richards, Ms. Joanna Rom, Ms. Karen Sandberg, Ms. Holly Smith, and Ms. Kathryn Sullivan.

Dr. Beering announced that, in Plenary Executive Closed Session, the Board elected Dr. Ray Bowen as Chairman and Dr. Esin Gulari as Vice Chairman for the 2010-2012 term. Both Drs. Bowen and Gulari will also serve as members of the Executive Committee from 2010-2012. (See 1.e.) Dr. Beering thanked Dr. Galloway for her service as Vice Chairman during the past 2 years.

Dr. Beering reported on the annual Awards Ceremony and Dinner held at the Department of State's Diplomatic Reception Rooms on May 4, 2010, where the Board was honored to receive a message from President Obama. The following honorary award recipients were recognized for their distinguished contributions:

- Dr. Bruce Alberts, Editor-in-Chief of *Science* Magazine and Professor Emeritus in the Department of Biochemistry and Biophysics at the University of California, San Francisco, received the Vannevar Bush Award.
- Dr. Subhash Khot, Associate Professor of Computer Science at New York University received the Alan T. Waterman Award.
- Dr. Nalini Nadkarni, Member of the Faculty at the Evergreen State College in Olympia, Washington, received the individual NSB Public Service Award.
- The Expanding Your Horizons Network received the group NSB Public Service Award.

On the subject of outreach, Dr. Beering reported that on March 10, 2010, he and Dr. Arden Bement testified before the House Subcommittee on Research and Science Education of the House Science and Technology Committee. There, he presented concerns for American science leadership as addressed in *Science and Engineering Indicators 2010*, the FY 2011 Budget Request, NSB priorities, and NSF investment in research infrastructure. On March 12, 2010, Drs. Beering and Lanzerotti met with the President's Council of Advisors on Science and Technology (PCAST) where they outlined Board policy positions on shared interests that PCAST will be addressing.

Dr. Beering announced recent recognition of several Board Members:

- Dr. G. Wayne Clough received an Honorary Degree from Oglethorpe University in Atlanta. Before his appointment as Secretary of the Smithsonian Institution, Dr. Clough served as President of the Georgia Institute of Technology for 14 years.
- Bryant University in Smithfield, Rhode Island announced the appointment of Dr. José-Marie Griffiths, of the University of North Carolina at Chapel Hill, as the next Vice President of Academic Affairs, effective June 2010.
- Dr. Kathryn Sullivan was inducted into the Women in Aviation, International Pioneer Hall of Fame. She was a member of the first Space Shuttle astronaut class, a veteran of three space shuttle missions, and the first American woman to walk in space.
- Dr. Richard Thompson, a behavioral neuroscientist who has spent nearly a half-century researching the physical basis of memory, won the American Psychological Foundation's 2010 Gold Medal Award of Life Achievement in the Science of Psychology.

Lastly, the Chairman discharged the *ad hoc* Committee on Honorary Awards and the *ad hoc* Committee on Nominating for NSB Elections. (See 1.j.- k.)

3. NSF Director's Report

Dr. Arden Bement, Jr., NSF Director, paid tribute to Board Members for their unified action and focus on prioritization in what would be his final Board meeting after some 12 years as a Member. He especially thanked Drs. Beering and Galloway, who served as Chairman and Vice Chairman during the past 2 years.

The Director reported that, in response to President Obama's Open Government Directive, NSF is finding ways to make its work more accessible to the general public. Through the Open Government Directive Plan released on April 7, 2010, NSF will continue to inform the public about the exciting activities taking place at NSF. NSF also developed a Web site where the public can provide comments about the plan and make suggestions to NSF regarding additional

ways to improve transparency and better integrate public participation and collaboration into the agency's core mission, enhancing innovation and efficiency.

Dr. Bement also reported on the following staff announcements:

- Dr. James S. Ulvestad began his IPA assignment on March 1, 2010, as the Director, Division of Astronomical Sciences, Directorate of Mathematical and Physical Sciences (MPS).
- Ms. Docia Casillas joined NSF on April 26, 2010, as the new Labor Relations Officer.
- Ms. Martha Rubenstein agreed to serve, on a permanent basis, as NSF's Chief Financial Officer (CFO) and Head, Office of Budget, Finance, and Award Administration (BFA).
- Mr. Michael Sieverts will assume the role of Director, BFA Budget Division.

4. Board Committee Reports

a. Executive Committee (EC)

Dr. Bement reported that the committee endorsed the 2009 Annual Report of the Executive Committee, which summarizes the activities from May 2009 through April 2010. *[The full Board subsequently accepted the annual report.]* (See 1.f.) (Attachment)

b. Committee on Audit and Oversight (A&O)

At the A&O meeting, there were several presentations: Dr. Cora Marrett, Acting Deputy Director, reported on NSF's implementation of the President's Executive Order to create Labor-Management Forums to Improve the Delivery of Government Services. Ms. Rubenstein reported on the status of the 2010 Financial Statement Audit and the follow-up work underway to address issues identified in the 2009 audit. She also provided an update on NSF's success in managing a robust Recovery Act recipient reporting process, and a status report on plans to modernize the NSF financial system.

Ms. Allison Lerner, NSF Inspector General, briefed the committee on recent OIG Recovery Act efforts. She also cited two recent examples of OIG and NSF working collaboratively to improve agency policies pertaining to conflict-of-interest and audit resolution. Mr. Sal Ercolano, partner-in-charge of NSF's financial statement audit, presented an overview of the NSF financial statement audit plan for FY 2010. Mr. Ercolano also discussed this year's IT Security Program review known as the Federal Information Security Management Act (FISMA), which will emphasize the testing of network controls and assess the status of deficiencies pertaining to the U.S. Antarctic Program (USAP) contained in last year's report.

Ms. Pat Bryant, Director, Division for Administrative Services (DAS), gave a presentation regarding "Future NSF," in which she described the complex series of steps that will be required as the NSF lease expires in FY 2013. Dr. James Lightbourne, Mr. Nick Proferes, and Ms. Beth Ann Velo presented the FY 2009 Report to NSB on the NSF Merit Review Process.

Lastly, A&O discussed its work with the Committee on Programs and Plans (CPP) to review, and potentially revise, the policy on award thresholds requiring NSB Approval. A&O voted to recommend approval of the management response and draft transmittal letter for the March 2010 *OIG Semiannual Report to the Congress*. [The full Board subsequently approved the transmittal letter and management response.] (See 1.1.)

c. Committee on Education and Human Resources (CEH)

The committee reviewed the final draft of the STEM Innovators report. Dr. Camilla Benbow summarized the most significant changes, followed by brief discussion on some additional minor edits. The committee unanimously supported a motion to bring the report before the Board for final approval, subject to minor editing, and identified its preferred cover design. The Board Office anticipates a publication in August 2010 and will work with senior administration leadership to have a roll-out of the report. Members of the *ad hoc* Task Group on STEM Innovators, experts in the Directorate for Education and Human Resources (EHR), Dr. Marrett, Dr. Patricia Johnson (U.S. Department of Education), and the Board Office staff – particularly Dr. Matthew Wilson – were thanked for their input and assistance throughout this project. [The full Board subsequently approved the report, subject to final edits approved by the Board Chairman and the CEH chairman.] (See 1.g.)

The committee also discussed proposed changes to programs managed in the EHR Division of Human Resource Development (HRD) that support broadening participation of undergraduate students from traditionally underrepresented groups in STEM education and career pathways. Brief presentations by Drs. Joan Ferrini-Mundi (Acting EHR Assistant Director) and Caesar Jackson (Acting HRD Division Director) provided a summary on the motivation for the proposed changes, and details regarding implementation. Dr. Lee Todd, Jr., Chairman of the EHR Advisory Committee, also participated in this discussion.

d. Committee on Science and Engineering Indicators (SEI)

The committee heard accounts of *Science and Engineering Indicators 2010 (Indicators)* rollout activities since the February 2010 Board meeting, including the press event at the American Association for the Advancement of Science (AAAS) Annual Meeting and briefings to PCAST and the American Society of Mechanical Engineers R&D caucus on Capitol Hill. Analysis of data on Web views for *Indicators*, the Digest, and the Companion Piece since the rollout showed a sizable increase over comparable 2008 numbers in each category, and especially for the *Indicators* Digest.

Dr. Myron Gutmann, Assistant Director, Directorate for Social, Behavioral and Economic Sciences (SBE), described how SBE will gather input from experts later this year on ways to better measure scientific literacy and understanding for the 2014 edition of *Science and Engineering Indicators*. Dr. Gutmann hopes to prepare a preliminary report in time for the Board's December 2010 meeting and a final report for the February 2011 meeting.

Finally, SEI discussed the draft *Indicators* Education Tool, which was designed to expand the audience for *Indicators* data, targeting the precollege education community especially. It approved a motion recommending that the Board approve the *Indicators* Education Tool, subject

to final edits and a final determination of the title. *[The full Board subsequently approved the Indicators Education Tool, subject to final edits by the Board Chairman and SEI chairman.]* (See 1.h.)

e. Committee on Programs and Plans (CPP)

In CPP Open Session, the committee heard an update from Dr. Arden Bement Jr., Director of NSF, on the award recompetition policy. Dr. Bement informed the committee that NSF had determined that stronger guidance should be developed, and NSF will return to the Board at the August 2010 meeting with an update. To continue an ongoing discussion on award thresholds for NSB review, Dr. Droegemeier, CPP chairman, informed the committee that Board Office staff developed a white paper that will be distributed to NSF leadership for feedback after the meeting. The committee, working in conjunction with A&O, anticipates further discussion on this issue at the August 2010 meeting.

Dr. Joann Roskoski, Acting Assistant Director, Directorate for Biological Sciences (BIO), and Dr. Judy Verbeke, Deputy Division Director, BIO Division of Biological Infrastructure (DBI), gave an update on the status of iPlant. Dr. Verbeke explained the vision for iPlant, which is to use cyberinfrastructure and a broad user community to identify and prioritize “Grand Challenges” in the plant sciences.

Dr. Jose Munoz, Acting Director, Office of Cyberinfrastructure (OCI), and Dr. Phillip Bogden, OCI Program Officer, presented an update on DataNet, an important part of the OCI portfolio. The vision for DataNet is a large community of scientists working together to extract information from large data sets. Dr. Bogden informed the committee that OCI expects additional investments by other directorates and offices as the program yields demonstrable service to relevant communities. NSF expects to bring award recommendations before the Board at a future meeting.

In CPP Closed Session, the committee heard a status update on the Deep Underground Science and Engineering Laboratory (DUSEL). Additionally, the committee considered four action items, which were forwarded to the full Board for approval. *[The full Board subsequently approved the four award resolutions.]* (See 1.a. - d.)

CPP Subcommittee on Polar Issues (SOPI)

Dr. Karl Erb, Director of the Office of Polar Programs (OPP), provided an update on activities at South Pole station, focusing on IceCube, ongoing efforts to reduce the U.S. Antarctic Program (USAP) carbon footprint in the region, the extension of the Antarctic support contract, and new requirements on ships in the Southern Ocean. Dr. Erb circulated a draft Charter of the Review of the U.S. Antarctic Program Committee for comments. OPP is working with the White House and consulting with the OPP Advisory Committee, the National Academies Polar Research Board, and others. Dr. Erb anticipates that NSF and Dr. John Holdren, Director, Office of Science and Technology Policy (OSTP), will meet shortly to finalize planning for the review process. Dr. Bement and Dr. Holdren will select committee members. This external Blue Ribbon committee will be tasked to conduct the review, which should be completed in the spring of 2011, in time to inform the budget and logistics planning for the following year, and SCF will also be briefed at that time.

Mr. Simon Stephenson, Director, OPP Division of Arctic Sciences, reported on the recent State of the Arctic Conference that was supported by NSF, National Oceanic and Atmospheric Administration (NOAA), and others. Dr. Erb thanked Dr. Bement for presenting the keynote address at the conference, and noted that additional follow-up meetings to build on International Polar Year (IPY) research results will be held in Oslo in June 2010 and in Montreal in 2012.

CPP Task Force on Support of Mid-Scale and Multi-Investigator Research (MS)

Dr. Droegemeier gave a status update on the actions of the new task force, which will conduct some research on NSF's past and current practices regarding mid-scale research activities. CPP anticipates that a task force charge will be presented for approval at the August 2010 meeting.

f. Committee on Strategy and Budget (CSB)

In CSB Open Session, Dr. Bement provided an update on the FY 2011 Budget Request. Dr. Marrett provided an update on Recovery Act funding, noting the substantial amount of reporting requirements associated with those funds. Dr. Clifford Gabriel, Acting MPS Executive Officer, and Chairman of the NSF Strategic Plan Working Group, provided an update on NSF's progress on revising the NSF Strategic Plan. CSB recommended that the draft Plan be forwarded to the Office of Management and Budget (OMB) for review and comment after NSF staff and Advisory Committee comments have been addressed. Dr. Craig Robinson, Acting Executive Officer, discussed the NSB Budget. Members requested more detailed budget information such as background materials and information on current Board Office staffing levels and duties.

In CSB Closed Session, the committee discussed information related to FY 2012 budget development.

CSB Subcommittee on Facilities (SCF)

The subcommittee provided a status report on the review of NSF facilities. The SCF Chairman, Dr. José-Marie Griffiths, led the discussion on key issues and noted the complexity of the portfolio review and the need for additional time to analyze the data. To ensure effective progress towards developing recommendations for the August 2010 NSB meeting, a meeting between the SCF and the NSF Assistant Directors will be scheduled during the summer. The subcommittee will also consult the CPP Task Force on Support of Mid-Scale and Multi-Investigator Research and will identify additional data needed for the 2010 and 2011 portfolio assessments.

CSB Task Force on Data Policies (DP)

This new task force held its initial meeting, and provided CSB with an update on current NSF data policy activities.

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

Dr. Patricia Galloway, 60ANN chairman, noted that the success of the Symposium at the AAAS Annual Meeting, "The Future of NSF on Its 60th Anniversary," in February 2010. Ms. Karen Sandburg, the Office of Legislative and Public Affairs (OLPA) representative, reported on the completion of several activities including the "Sensational 60," a compendium of NSF-funded projects and programs with significance over the past 60 years. The videos of the speakers at the

AAAS Symposium and the “Voices From the Future” Distinguished Speaker series were edited and placed on the “Special Reports” and “NSF History” sections on the NSF Web. Additionally, information on the AAAS Symposium and the Distinguished Speakers was placed on the NSB Web site with links to the NSF videos. OLPA also reported that House Resolution 1307, honoring NSF’s 60 years of service to the Nation, was passed and a Presidential Proclamation honoring NSF was under review by the White House. A flag will fly over the U.S. Capitol on May 10, 2010 in commemoration of NSF’s 60th Anniversary.

Mr. John Tsapogas, former Chairman of the NSF 60th Anniversary Working Group, reported that 60th Anniversary banners and posters are being displayed in NSF buildings and that the 60th Anniversary will be highlighted at NSF’s staff award ceremony in June 2010. In addition, theme-based presentations to NSF staff are being planned. A commemoration of the 50-year anniversary of NSF’s Tokyo office is also being planned.

h. Task Force on Merit Review (MR)

The task force voted to seek Board approval of the draft charge and work plan. [*The full Board subsequently approved the MR charge and workplan.*] (See 1.i.) The task force engaged in a full-ranging discussion, identifying a number of potential questions, sources of input, and potential mechanisms for gathering data. The task force agreed on the following immediate course of action: (a) all members would develop specific questions relevant to specific audiences to the MR Executive Secretary, who will work with NSF staff and the Board Office staff to refine the questions and make recommendations on methods to get input on those questions; and (b) the task force, working with NSF, will begin to collect data from the Committee of Visitors reports on issues related to the use of the review criteria.

[signed]

Craig R. Robinson
Acting Executive Officer

**2009 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 4, 2010. This report covers the period from May 2009 through April 2010. 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:

Dr. Steven C. Beering
Dr. Patricia D. Galloway
Dr. Camilla P. Benbow
Dr. Ray M. Bowen

Dr. Clifford J. Gabriel, acting Executive Officer, Mathematical and Physical Sciences Directorate, served as Executive Secretary of the Executive Committee during this time period.

The Executive Committee met 7 times during this period (May 2009, September 2009, October 2009, November 2009, December 2009, and February 2010). The September meeting was held in Columbus, Ohio and was chaired by acting Deputy Director Dr. Cora Marrett. The remaining meetings were held 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 October and November meetings were closed sessions held by teleconferences.

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. The Executive Committee did not act on behalf of the Board during this reporting period.

/s/
Arden L. Bement, Jr.
Chairman
Executive Committee