

**APPROVED MINUTES<sup>1</sup>  
OPEN SESSION  
434TH MEETING  
NATIONAL SCIENCE BOARD**

National Science Foundation  
Arlington, Virginia  
November 21, 2013

Members Present

Dan E. Arvizu, Chairman  
Kelvin K. Droegemeier, Vice Chairman  
Bonnie L. Bassler  
Arthur Bienenstock  
Ray M. Bowen  
Vinton G. Cerf  
France A. Córdoba  
Ruth David  
Inez Fung  
G. Peter Lepage  
Alan I. Leshner  
W. Carl Lineberger  
Stephen L. Mayo  
G.P. “Bud” Peterson  
Douglas D. Randall  
Geraldine Richmond  
Anneila I. Sargent  
Diane L. Souvaine  
Arnold F. Stancell  
Maria T. Zuber

Members Absent

Deborah L. Ball  
Esin Gulari  
Claude M. Steele  
Robert J. Zimmer

Cora B. Marrett, *ex officio*

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<sup>1</sup> The minutes of the 434<sup>th</sup> meeting were approved by the Board at the February 2014 meeting.

The National Science Board (Board, NSB) convened in Open Session at 3:30 p.m. on Thursday, November 21, 2013 with Dr. Dan Arvizu, Chairman, presiding (Revised Agenda NSB-13-62, Board Book Addendum). In accordance with the Government in the Sunshine Act, this portion of the meeting was open to the public.

The Chairman introduced the meeting with a welcome to NSF staff, guests, and members of the public. He expressed the Board's appreciation to NSF staff for their heroic efforts, care, and professionalism in dealing with the challenges that resulted from the October 2013 funding lapse. He noted that due to this disruption, the November 2013 meeting was abbreviated. Normal structure would be resumed at the Board meeting in February 2014.

AGENDA ITEM 13: Approval of Open Session Minutes, August 2013

The Board unanimously APPROVED the Open Session minutes of the August 2013 (NSB-13-50, Board Book page 66).

AGENDA ITEM 14: Approval of Open Session Minutes, September 2013

The Board unanimously APPROVED the Open Session minutes of the September 2013 Board meeting (NSB-13-58, Board Book Addendum).

AGENDA ITEM 15: Chairman's Report

In the Chairman's Introduction and during the Chairman's Report, Dr. Arvizu announced and reported on several items, and requested action on one item.

**a. Science and Engineering Indicators 2014 Digest**

Dr. Arvizu noted a recommendation from the Committee on Science and Engineering Indicators (SEI) for Board approval of the *Science and Engineering 2014 Digest*, subject to final edits approved by the SEI chairman and the Board Chairman. Upon this recommendation:

The Board unanimously APPROVED the *Science and Engineering Indicators 2014 Digest*, subject to final edits approved by the SEI chairman and the Board Chairman.

**b. Congressional Testimony**

Dr. Arvizu reported on the well-received testimony of Dr. Kelvin Droegemeier, Vice Chairman, before the Senate Committee on Commerce, Science, and Transportation concerning the America COMPETES legislation, science research, and the U.S. economy. Dr. Droegemeier presented information on the importance of basic research, the U.S. research and innovation ecosystem, and NSF's role, including specific examples of economic and societal returns on

investment in basic research. He further noted the importance of the Experimental Program to Simulate Competitive Research (EPSCoR) in national capacity building for competitiveness.

### **c. Board Office Staff Introduction**

Dr. Arvizu introduced and welcomed two new staff members in the Board Office. Ms. Nadine Lymn, the new NSB Communications Director, joined the office on September 23, 2013 to work on Board science outreach and communications initiatives. Ms. Lymn previously served as Director of Public Affairs with the Ecological Society of America for 18 years.

Dr. Elise Lipkowitz joined the Board Office on September 18, 2013 as an American Association for the Advancement of Science (AAAS) Science and Technology Policy Fellow. She was previously a postdoctoral Fellow at the Michigan Society of Fellows and Assistant Professor in the Department of History at the University of Michigan. Her academic concentration was in the history of science.

### **d. Webcast of Board Meeting**

The November 2013 Board meeting was Webcast and simultaneously available to viewers through the Internet. The Webcast included the Plenary Open Session of the full Board as well as the Open Session of its committee. The Webcast is available from the NSB and NSF Web sites, <http://www.tvworldwide.com/events/nsf/131121/>.

### AGENDA ITEM 16: Director's Report

Dr. Arvizu called on Dr. Cora Marrett, Acting NSF Director, for her report.

#### **a. NSF Staff Introductions**

Dr. Marrett announced four new staff appointments. Dr. Scott Edwards joined NSF as the Division Director, Division of Biological Infrastructure (DBI), Directorate for Biological Sciences (BIO), in June 2013. Dr. Edwards was previously a Professor of Organismic and Evolutionary Biology at Harvard University and Professor of Biology at the University of Washington. He received his Ph.D. in Zoology from the University of California-Berkeley.

Dr. Penelope "Penny" Firth was appointed Director, BIO Division of Environmental Biology (DEB), on October 21<sup>st</sup>, 2013. Dr. Firth previously served as the DEB Deputy Director. She received her Ph.D. in Biology from the Virginia Polytechnic Institute and State University.

Dr. Sylvia James was appointed Division Director, Division of Human Resource Development (HRD), Directorate for Education and Human Resources (EHR), on September 22, 2013. Dr. James joined NSF as Program Director in the Division of Research on Learning in Formal and Informal Settings (DRL), coming from the position of Director of Conservation Education and Acting Director for the Division of Human Resource Development at the National Aquarium in Baltimore, Maryland. She holds a Ph.D. in Science Education from Morgan State University.

Dr. JoAnn Lighty joined NSF as the Division Director, Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET), Directorate of Engineering (ENG), on October 28, 2013 from the University of Utah, where she served as Professor in the Department of Chemical Engineering. She received her Ph.D. in Chemical Engineering from the University of Utah.

**b. NSF Staff Recognition**

Dr. Marrett announced the award to the Budget, Finance, and Awards Management (BFA) team who received the Certificate of Excellence in Citizen-Centric Reporting for 2012 from the Association of Government Accountants (AGA) for its report, *Performance and Financial Highlights*. The team was led by BFA staff members Ms. Shirley Watt and Mr. John Lynskey.

**c. Impacts on NSF of Funding Lapse**

Dr. Marrett reported on the impacts on NSF operations of the lapse in budget appropriations October 1-16, 2013. The lapse in appropriations and Government shutdown had a significant impact on NSF operations and the science, engineering, and education communities NSF serves.

She thanked the Board for its responsiveness to NSF management's request to shorten the Board meeting in view of the delays resulting from furloughs of all but a few staff deemed "excepted." Such staff was needed to protect Government property and human life, as required by the Antideficiency Act and from the Division of Polar Programs (PLR), Directorate for Geosciences (GEO); Budget and Financial Administration; the Office of Information Resource Management (OIRM); and the Office of the Director. Additional staff was brought off furlough on an as-needed basis. Over 98 percent of NSF staff was furloughed.

Impacts of the furlough included the cancellation of 101 panels, cancellation or postponement of site visits, delay in investigations and audits for the Office of Inspector General (OIG), and constrained funding for NSF facilities, as the previously obligated funds to existing operations and maintenance awards could not be provided. The effects cascaded into the community in the form of furloughs of staff at NSF-sponsored facilities and lost use of facilities for the research community.

Dr. Marrett noted that when the Agency shutdown there was no extra funding because of the sequester cuts that were made in April 2013. She noted that management was exploring a number of measures to come up with sufficient reserves for Polar Programs to last several weeks in the event of an interruption in appropriations. Dr. Marrett also noted that the experience underscored the importance of thorough planning, and that NSF had plans in place in response to past threatened shutdowns. However, she explained that more people were needed than available to address some startup issues and that more startup planning was required.

Dr. Marrett ended by thanking NSF staff for their dedication and hard work as the Agency recovers from the shutdown. She further noted that NSF was under a Continuing Resolution

(CR) through January 15, 2014, and that the pathway to a final 2014 spending bill was unknown, making planning beyond that point difficult.

Dr. Arvizu thanked Dr. Marrett and asked for more specifics on lessons learned from the funding lapse, especially with regard to partnerships with other countries and agencies. Dr. Marrett responded that interagency relationships were an area where the Board could be helpful in future planning. The Office of Management and Budget (OMB) was also holding discussions on these interagency issues.

#### **d. Congressional Update**

Dr. Marrett next reported that NSF management was looking at the discussion draft released by the House Science, Space, and Technology of the Frontiers and Innovation Research, Science, and Technology (FIRST) Act, which would reauthorize fundamental science and research activities at NSF, the National Institute of Standards and Technology (NIST), and the White House Office of Science and Technology Policy (OSTP). Dr. Marrett referred to a previously distributed document addressing transparency, accountability, and continuous improvement (O/D-13-26, Portfolio Framework). She expressed confidence in implementing the plan and that it will enhance transparency and accountability consistent with what NSF should be doing as a public agency. She stated that NSF would be reporting to the Board on progress being made and would welcome suggestions, ideas, and support from the community.

#### AGENDA ITEM 17: Open Committee Report

(Note: Only one committee met during the November 2013 Board meeting.)

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

The Chairman asked Dr. Diane Souvaine, CPP chairman, to report. Dr. Souvaine noted that most of the information items scheduled for the November 2013 meeting would be rescheduled for the February 2014 meeting. The February 2014 meeting would also include a joint session of CPP and the Committee on Strategy and Budget (CSB) to hear the annual NSF Facilities Plan and to resume program portfolio planning discussions. CPP would be scheduling telephone conferences in January 2014 as needed to prepare for the February 2014 meeting discussions.

Dr. Souvaine reported that the committee heard a report from the NSB Antarctica Review Team, which was impressed by the amount of work needed to do science in Antarctica as well as the energy, enthusiasm, and dedication of scientists working there. A more in-depth report on polar issues was suggested for February 2014.

#### NSB Information Item: Next-Generation Nanotechnology Infrastructure (NNIN)

(Presentation Book page 3)

Dr. Souvaine also reported that Dr. Larry Goldberg, NSF Senior Engineering Advisor, gave a presentation on NNIN. NSF expects to bring an action item for NNIN before the Board at the February 2014 meeting.

AGENDA ITEM 18: Chairman's Remarks

Dr. Arvizu reiterated his thanks to NSF staff for their diligence through the challenging times; and expressed his personal thanks to Dr. Marrett, noting her difficult task of running an entire organization with a skeletal crew.

The Chairman adjourned the Plenary Open Session at 4:02 p.m.

*[signed]*

Ann A. Ferrante  
Executive Secretary  
National Science Board