

**APPROVED MINUTES<sup>1</sup>  
OPEN SESSION  
427TH MEETING  
NATIONAL SCIENCE BOARD**

National Science Foundation  
Arlington, Virginia  
July 17-18, 2012

Members Present:

Dan E. Arvizu, Chairman  
Kelvin K. Droegemeier, Vice Chairman  
Ray M. Bowen  
France A. Córdova  
Esin Gulari  
Alan I. Leshner  
W. Carl Lineberger  
G.P. “Bud” Peterson  
Douglas D. Randall  
Anneila I. Sargent#  
Diane L. Souvaine  
Arnold F. Stancell  
Claude M. Steele  
Robert J. Zimmer

Subra Suresh, *ex officio*

Consultants Present:

Mark R. Abbott  
Camilla P. Benbow  
Arthur Bienenstock  
Patricia D. Galloway  
José-Marie Griffiths  
Arthur K. Reilly

Members Absent:

Bonnie Bassler

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<sup>1</sup> The minutes of the 427th meeting were approved by the Board at the December 2012 meeting.  
#Participated by telephone

The National Science Board (Board, NSB) convened in Open Session at 11:10 a.m. on Wednesday, July 18, 2012, with Dr. Dan Arvizu, Chairman, presiding. (Agenda NSB-12-36, Board Book page 280). In accordance with the Government in the Sunshine Act, this portion of the meeting was open to the public.

AGENDA ITEM 7: Approval of Open Session Minutes, May 2012

The Board unanimously APPROVED the Open Session minutes of the May 2012 Board meeting. (NSB-12-27, Board Book page 321)

AGENDA ITEM 8: Chairman's Report

In the Chairman's Introduction on Tuesday, July 17, 2012 and during the Chairman's Report in the Plenary Open Session on Wednesday, July 18, 2012, Dr. Arvizu announced and reported on several items.

**a. Board Meeting Calendar for 2013**

Dr. Arvizu presented the proposed 2013 calendar for Board meeting dates. In developing the meeting dates, the Board Office considered a variety of constraints during the year, including statutory requirements, and compiled a list of dates for the maximum attendance by Board Members. The 2013 calendar includes dates of meetings of the full Board during February, May, August, September, and November.

The Board unanimously APPROVED the Board meeting calendar for 2013. (NSB-12-39, Board Book page 342) (Appendix)

**b. Committee Announcements**

Dr. Arvizu announced that, with the Class of 2012 now serving as Consultants, he appointed new committee chairmen and revised the list of committee membership. The updated committee information was provided to Board Members and added to the NSB Web site.

Dr. Arvizu thanked the following new committee chairmen for agreeing to lead the NSB standing committees and subcommittee:<sup>2</sup>

- Dr. Bud Peterson, Committee on Audit and Oversight (A&O)
- Dr. Ray Bowen, Committee on Science and Engineering Indicators (SEI)
- Dr. Diane Souvaine, Committee on Programs and Plans (CPP)
- Dr. France Córdova, Committee on Strategy and Budget (CSB)
- Dr. Carl Lineberger, CSB Subcommittee on Facilities (SCF)

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<sup>2</sup> Dr. Claude Steele would be chairman of the Committee on Education and Human Resources (CEH).

He especially thanked Dr. Kelvin Droegemeier, Vice Chairman, for his help and partnership to establish this new cycle of Board leadership. Additionally, he thanked the Board Members and Consultants for their continued dedication and engagement with NSB.

The *ad hoc* Committee on Honorary Awards (AWD) was established with Dr. Alan Leshner as chairman. Drs. Ray Bowen, Esin Gulari, and Anneila Sargent agreed to serve as members of the committee.

The CPP Task Force on Unsolicited Mid-Scale Research (MS) was discharged with thanks to Drs. Diane Souvaine and Kelvin Droegemeier, co-chairmen, and members, Drs. Camilla Benbow, José-Marie Griffiths, and Thomas Taylor. The report, *National Science Foundation Support of Unsolicited Mid-Scale Research* (NSB-12-22), is available on the NSB Web site, <http://www.nsf.gov/nsb/publications/2012/nsb1222.pdf>.

### **c. Board Member Recognition**

Dr. Bonnie Bassler received an honorary degree from Bates College, Lewiston, Maine, during commencement ceremonies in May 2012. Dr. Bassler is Professor of Molecular Biology at Princeton University.

Dr. France Córdova was presented with the 2012 Women in Space Science Award in June 2012 by the Women's Board of the Adler Planetarium, Chicago, Illinois. The award is given annually to outstanding women in science or technology who have made a lasting impact on space science. Dr. Córdova is President Emeritus of Purdue University.

Dr. Patricia Galloway was elected to the Board of Directors of the Pacific Science Center, Seattle, Washington, in July 2012. Dr. Galloway is Chief Executive Officer of Pegasus Global Holdings.

Dr. Arnold Stancell was recently re-elected to a second 3-year term as Councillor to the National Academy of Engineering. He was also appointed to the Governing Board of the National Research Council for a second 1-year term. Dr. Stancell is Professor Emeritus at Georgia Institute of Technology.

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

The Board meeting held in Arlington, Virginia, was Webcast and simultaneously available to viewers through the Internet. The Webcast included all Plenary Open Sessions of the full Board as well as Open Sessions of its committees and subcommittee. The Webcast is available from the NSB and NSF Web sites, <http://www.tvworldwide.com/events/nsf/120717/>.

### AGENDA ITEM 9: Director's Report

Dr. Subra Suresh, NSF Director, reported on the following items:

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

Dr. Pamela O'Neil was appointed as Deputy Assistant Director, Directorate for Education and Human Resources (EHR) on June 3, 2012. Since October 2009, Dr. O'Neil served as Staff Associate in the Office of Integrative Activities (OIA). Prior to joining NSF, she served as Associate Provost at Brown University and Associate Vice Chancellor for Research and Sponsored Programs at the University of New Orleans. Dr. O'Neil received her Ph.D. in Biology from Brown University.

Dr. David Stonner was appointed Head, Office of International Science and Engineering (OISE) on July 1, 2012. He served as OISE Deputy Head since July 2011. He joined NSF in 1991, and held a number of managerial and science policy positions including Head of the NSF Europe Office in Paris and Head of the Congressional Affairs Section in the Office of Legislative and Public Affairs (OLPA). Dr. Stonner received his Ph.D. in Psychology from the University of Missouri.

Dr. Wanda Ward was appointed OIA Head on July 1, 2012. She previously served as Senior Advisor for Planning and Assessment in the Office of the Director. Since joining NSF in 1992, she also held a number of executive and managerial positions including Deputy Assistant Director for the Directorate for Education and Human Resources (EHR) and Deputy Assistant Director for the Directorate for Social, Behavioral and Economic Sciences (SBE). Dr. Ward received her Ph.D. in Psychology from Stanford University.

### **b. Congressional Update**

Dr. Suresh also reported that since the last NSB meeting in May 2012, the House of Representatives passed the Subcommittee on Commerce, Justice, Science and Related Agencies Appropriations Bill on May 10, 2012 by a final vote of 247 to 163. NSF emerged from the House with \$299 million, or 4.3 percent, above the FY 2012 appropriated levels.

Two amendments passed that would place restrictions on funding Climate Change Education and Political Science programs. An amendment offered by Representative Chip Cravaack (R-MN) to prohibit any funds from being used for NSF's Climate Change Education Program passed by a vote of 238 to 188. An amendment offered by Representative Jeff Flake (R-AZ) to deny any funds to NSF's Political Science Program passed by a vote of 218 to 208. Neither amendment changes NSF's bottom line. Dr. Suresh noted that it appears there will be no further movement of the Appropriations Bill in the Senate before the end of the fiscal year. Although no details emerged, there would likely be a Continuing Resolution running to mid-November 2012.

Dr. Suresh also reported that Dr. Thomas Peterson, Assistant Director, Directorate for Engineering (ENG), testified on July 16, 2012 in Chicago, Illinois, at a field hearing before the Subcommittee on Research and Science Education of the House Science, Space, and Technology Committee on the NSF Innovation Corps (I-Corps) Program. Dr. Peterson will also testify on July 19, 2012 at a full committee hearing before the House Science, Space, and Technology Committee on the NSF support of the science underlying the development of threat detection technologies.

Finally, Dr. Suresh noted that Senator John D. Rockefeller (D-WV) and Representative Eddie Bernice Johnson (D-TX) introduced identical legislation to establish scientific standards and protocols across forensic disciplines. Under the legislation, NSF would be required to establish a Forensic Science Research Program.

**c. Memorandum of Understanding (MOU) with European Research Council (ERC)**

Dr. Suresh announced that NSF signed an MOU with ERC on July 13, 2012 that will allow NSF Faculty Early Career Development (CAREER) Grantees and NSF Postdoctoral Fellows to spend between 3 months and 1 year working in the laboratories of some of the top research labs in the European Union. Under the agreement, CAREER Awardees and Postdoctoral Fellows will be provided with support while in Europe from the ERC grant, and NSF will provide the travel funds. Ms. Maire Geoghegan-Quinn, Commissioner for Research, Innovation and Science, who signed on behalf of ERC, noted that up to 100 young American researchers are expected to be supported in the first full year of implementation.

**d. New NSF Programs**

The following NSF staff provided information on new programs at NSF.

Dr. David Stonner, OISE Office Head, gave information on the Global Summit on Merit Review held at NSF on May 14-15, 2012 and the Global Research Council (GRC). The Summit included 44 heads of research funding agencies, mostly from research intensive countries, but included several from developing countries. The attendees unanimously adopted a set of high level principles on Merit Review that were developed at a series of workshops held last fall in South Africa; Brazil; Brussels, Belgium; Saudi Arabia; and India. The Summit also served as the inaugural meeting of a new entity, the Global Research Council, a virtual organization that will meet annually to sanction high level policies aimed at improving opportunities for international research collaborations. The next Global Research Council meeting will be co-hosted by Brazil and Germany and held in Berlin in May 2013. Policy topics to be addressed at that meeting are open access and research integrity. (Board Book Addendum)

Dr. DeAndra Beck, OISE Program Director, provided an update on one of NSF's newest international initiatives, Science Across Virtual Institutes (SAVI). She explained that SAVI is intended to provide a vehicle for groups of NSF-funded researchers to elevate the scale and scope of their research on a topically focused area, in collaboration with international counterparts who share this interest and have their own funding to conduct research and collaborate with the U.S. teams. In this way, SAVI leverages both human resources and financial resources to add significant value to NSF funded research efforts. Additionally, SAVI has a strong workforce development component to allow exchange of students and postdoctoral scientists domestically and internationally. Dr. Beck reviewed the three pilot awards and the two most recent SAVI awards, and noted that a number of new SAVI awards would be funded and announced this fiscal year. (Board Book Addendum)

Dr. Beck was joined by Dr. Farnam Jahanian, Assistant Director, Directorate for Computer and Information Science and Engineering (CISE), who announced a new SAVI award called Global Research on Applying Information Technology to Support Effective Disaster Management (GRAIT-DM). It is an effort led by Dr. Calton Pu, Georgia Institute of Technology, and Dr. Masuru Kitsuregawa, University of Tokyo, and funded by NSF, Japan's National Institute of Informatics, the Japan Society for the Promotion of Science.

Dr. Thomas Russell, OIA Program Director, provided information on Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE). This program strengthens NSF's support of interdisciplinary, potentially transformative research by complementing existing efforts with a suite of new, highly innovative NSF-wide activities and funding opportunities. These efforts respond to a number of community, NSB, and internal reports, including those of the NSB Task Force on Unsolicited Mid-Scale Research (MS) and the NSF Facilitating Transformative and Interdisciplinary Research (FacTIR) Working Group. INSPIRE seeks to demonstrate that NSF is open to unusually novel cross-disciplinary ideas, and to encourage program directors to promote such ideas. The first pilot INSPIRE award mechanism, under which 40 awards totaling approximately \$30.7 million are anticipated in FY 2012, of which the first 11 of these awards were announced. The pilot is open to unsolicited research in all NSF-supported areas, allows awards of up to \$1 million over up to 5 years, does not require external review of full proposals, but requires a Principal Investigator to submit an inquiry and to obtain authorizations from program directors in at least two disciplines before submitting a proposal. (Board Book Addendum)

#### AGENDA ITEM 10: Open Committee Reports

[Note: The Executive Committee (EC) and the Committee on Education and Human Resources (CEH) did not meet in July 2012.]

##### **a. Committee on Audit and Oversight (A&O)**

Dr. Bud Peterson, A&O chairman, reported that Ms. Allison Lerner, NSF Inspector General (IG), briefed the committee on the Office of Inspector General (OIG) recent accomplishments, as well as the opportunities and challenges it faces. The IG discussed her congressional testimony in May 2012 regarding oversight of grant and contract management, and the OIG co-sponsorship of an international Workshop on Accountability in Science and Research Funding held in Paris during June 2012. She spoke about the opportunity presented by the completion of OIG's first audit using data analytics software, which expands the number of transactions that an auditor is able to examine. Ms. Lerner also described discussions that took place in June 2012 among OIG, Office of Budget, Finance, and Award Management (BFA), Defense Contract Audit Agency (DCAA), and others in an effort to re-start an audit of the Advanced Technology Solar Telescope (ATST) proposal, which was deemed by DCAA to be unauditible, and said that ATST is compiling updated cost information.

Ms. Martha Rubenstein, NSF Chief Financial Officer (CFO), commented on materials previously provided to the committee (Board Book page 161), which covered a variety of matters. She discussed NSF's work in meeting Office of Management and Budget's (OMB's) requirements to

accelerate the American Recovery and Reinvestment Act (ARRA) spending. She also noted OMB's increased constraints on travel cost and conference support. Dr. Suresh added that the Administration had been apprised of the importance of travel to NSF's mission requirements.

#### **b. Committee on Science and Engineering Indicators (SEI)**

Dr. Ray Bowen, SEI chairman, reported that the committee reviewed the process for producing *Science and Engineering Indicators 2014 (Indicators)*, including the key dates for Board involvement (Board Book page 236), and the role of committee members and other Board Members to ensure that *Indicators* meets its customary high standard of quality. The committee heard and commented on the plans for the various *Indicators* chapters. SEI was pleased with the chapter plans and with the evidence that new and better data would be available on a variety of topics that were identified in past years. Board Members commented on significant topics that warranted treatment, if suitable data were available. Revisions in light of Board comments will be circulated to the committee in an advance of the December 2012 meeting, at which time the committee needs to review and revise the plans for the chapters.

The first Companion Piece to *Indicators 2012*, entitled *Research and Development, Innovation, and the Science and Engineering Workforce (NSB-12-3)*, was released on Monday, July 16, 2012. Dr. Griffiths, Bowen, and Mr. Reilly participated in the release and received questions from the press. Stories have already appeared in *Science* and the *Wall Street Journal*. Additional outreach efforts will be made by the Board Office and OLPA.

The committee selected a title and cover design for the second Companion Piece to *Indicators 2012* entitled, *Diminishing Funding and Rising Expectations: Trends and Challenges for Public Research Universities (NSB/SEI-12-05)*, approved the report (Board Book page 166), and recommended full Board approval, subject to final edits. Based on that recommendation:

The Board unanimously APPROVED the second *Indicators 2012* Companion Piece, *Diminishing Funding and Rising Expectations: Trends and Challenges for Public Research Universities (NSB-12-45)*, subject to final edits approved by the SEI chairman and the Board Chairman.

Dr. Bowen thanked Dr. Lisa Nichols, the American Association for the Advancement of Science (AAAS) Fellow, for her work in developing the document, and the *ad hoc* group that guided the process, consisting of Drs. Camilla Benbow, France Córdova, Kelvin Droegemeier, José-Marie Griffiths and Mr. Arthur Reilly.

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

Dr. Diane Souvaine, CPP chairman, reported that the committee met on July 16-17, 2012 to address the CPP Open Session agenda items.

### NSB Information Item: Astronomical Science Portfolio Review

In the CPP Open Session on July 16, 2012, Dr. James Ulvestad, Division Director, Division of Astronomical Sciences (AST), Directorate for Mathematical and Physical Sciences (MPS), provided an overview of the NSF-initiated Astronomical Science Portfolio Review, which considered possible tradeoffs in investments under constrained budget conditions.

The presentation made clear that NSF is considering total future costs and likely future revenues when analyzing long-term investments, and that NSF will ensure that infrastructure costs do not compete with funds for research projects. Based on their assessments, AST anticipates difficult decisions in the coming years.

### Chairman's Remarks: Plan for Support of Earthquake Engineering Research Infrastructure (NEES) (Board Book page 77)

In the CPP chairman's remarks on July 17, 2012, the committee addressed the NSF Plan for NEES starting in FY 2015. NEES, which was the first of NSF's major distributed facilities, aims to shift its resource balance to invest a larger proportion toward science projects and a smaller proportion for infrastructure. It will achieve this by operating a smaller number of facilities and focusing on improving its cyberinfrastructure and supporting research related to a set of grand challenge questions.

### Director's Remarks: Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE) (Board Book Addendum)

Dr. Suresh updated CPP on the status of the INSPIRE Program, and indicated that NSF will announce its first cohort of INSPIRE awards on July 18, 2012. Dr. Thomas Russell, OIA Program Director, presented information on this program.

### NSB Discussion Item: Status of Implementation of Board Policy on Recompensation (Board Book pages 89, 108, 109; Board Book Addendum)

The committee considered the "Report of the Subcommittee on Recompensation of Major Research Facilities," on the status of the Board's policy on recompensation. Dr. William Frazer, Provost Emeritus, University of California System, and chairman of the *ad hoc* Committee on Implementation of Board Policy on Recompensation, which is a subcommittee of NSF's Business and Operations Advisory Committee (BOAC), presented highlights from the report. Dr. Bruce Darling, Executive Officer of the National Academy of Sciences (NAS), joined Dr. Frazer at the Board table for the discussion.

The subcommittee's report was deemed to be helpful and well executed with high quality analyses and evaluations, particularly given the complexity of the topic. The discussion emphasized that competitive forces ensure both innovation and efficiency in facilities, and issues of fairness of opportunity to compete for awards were also raised. At the same time, flexibility in timing of recompensation must be considered.



An implementation plan is expected from NSF at the December 2012 Board meeting, guided by the recommendations of this report and informed by the CPP discussion. The committee requested that documentation on this subject be sent to Board Members several weeks prior to the meeting to allow time for review and advance questions.

NSB Information Item: iPlant Update  
(Presentation Book)

Dr. Karen Cone, Program Director, Directorate for Biological Sciences (BIO) and iPlant Program Officer, provided an update on iPlant's recent site visit, current activities, and future plans. The site visit of the iPlant center resulted in the recommendation for continued funding as the center has, after 4 years, successfully reached the point where it is aggregating significant numbers of tools and building community interest. Approval for iPlant continuation is also slated to be an action item in December 2012.

NSB Information Item: National Ecological Observatory Network (NEON)  
(Presentation Book)

Dr. Elizabeth Blood, BIO Program Director and NEON Program Officer, updated CPP on NEON, which will be requesting CPP action in December 2012, regarding funds for its first 3 years of operations. NEON is an NSF Major Research Equipment and Facilities Construction (MREFC) project currently in year two of construction. The discussion focused on questions about the challenges of developing integrated large-scale models, which involves transforming the practice and culture of the scientists as well as the science, and on how to anticipate and manage risks in such projects.

NSB Information Item: Renewal Award to University of Illinois for Blue Waters Maintenance and Operation (Presentation Book)

Ms. Irene Qualters, Program Director, Office of Cyberinfrastructure (OCI) and Blue Waters Program Officer, updated the committee on the progress in construction and preliminary operations of the Blue Waters supercomputer project. Potential renewal of Blue Waters will also be an action item in December 2012. Board Members noted that Blue Waters is consistent with NSF's FY 2013 budget emphasis on advanced computing.

CPP Program Portfolio Planning

Space Weather: (Board Book Addendum) Dr. Richard Behnke, Program Officer, Directorate for Geosciences (GEO), provided an overview presentation of NSF's role in Space Weather research nationally and internationally. He emphasized the establishment of new programs within NSF and the role of NSF and other agencies in this area of science. His presentation was responsive to questions from the committee on items such as partnerships, NSF baseline investment, and future science and programmatic issues.

Following the presentation and discussion, Dr. Michael Morgan, Division Director, GEO Division of Atmospheric and Geosciences (AGS), worked with Drs. Droegemeier and Sargent to write a consensus summary of the portfolio presentation and ensuing Board discussion, which was provided to Board Members. Dr. Souvaine asked that edits or additions to the draft document be sent to Ms. Sonya Mallinoff, CPP Executive Secretary, who will work with the authors to finalize the summary. CPP will include the final version of the summary in the December 2012 Board Book as an official document.

During discussions, the Board recognized that Space Weather was an example of cross-cutting research and applications that could have important societal impact. Although Board Members cautioned not to let interests in operational impacts outpace fundamental research, they recommended that NSF remain aware of the limits of space weather predictability. Board Members suggested that awareness of this issue was especially appropriate given NSF's unique role in supporting research for fundamental space weather science and its ability to support investments that will enhance predictive capacity. Board Members expressed strong support for NSF's engagement in international cooperative efforts and recommended a continuous leadership role.

Follow-up from Cognitive/Neuroscience Program Portfolio: (Board Book page 112) Dr. Leshner reported on a summary document, which he and Dr. Myron Gutmann, SBE Assistant Director, compiled on the portfolio planning discussion on neuroscience held at the May 2012 Board meeting. He noted that NSF's portfolio in neuroscience is impressive and broad. Dr. Leshner noted two points from the discussion: that NSF is encouraged to find ways to make its neuroscience portfolio better known and that NSF should consider developing a clearer NSF focal point to advise and guide neuroscientists.

Upcoming Program Portfolio Planning: Dr. Souvaine reported that she concluded the CPP meeting by reminding the committee that the next Program Portfolio Reviews - anticipated in December 2012, February 2013, and May 2013 - will address the topics previously identified as priorities by the Board: Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21), international science and engineering, and the science and engineering workforce.

#### **d. Committee on Strategy and Budget (CSB)**

Dr. France A. Córdoba, CSB chairman, reported that Drs. Subra Suresh and Cora Marrett provided the committee with an update on the FY 2013 appropriations process. (Board Book Addendum) Both House and Senate marks provide for positive growth for NSF, with a 4 percent increase over last year in the House and 3 percent increase over last year in the Senate. The House mark funds all NSF accounts at the FY 2013 Request level, except the Research and Related Activities (R&RA) appropriation, which would be funded at \$41 million below the Request level. Overall, NSF would receive an increase of \$299 million above the FY 2012 total appropriation.

The House Bill included two significant amendments in the final version. Those amendments would prohibit NSF funding of the Climate Change Education Program and funding of political science research. The Senate Bill funds all NSF accounts at the FY 2013 Request level, except the R&RA appropriation, which would be funded at \$100 million below the Request level. Dr. Suresh reported that both House and Senate reports expressed strong support for core

research in cyber security research and education. He also reported on the uncertainty of final appropriations action and does not expect final appropriation action before January of 2013. Dr. Suresh ended the discussion with a brief update on the potential budget implications of sequestration, which could include mandatory across-the-board spending cuts associated with the 2011 Budget Control Act. Spending cuts could be up to 8 percent, but at this time it is not clear whether they would be applied equally to all agencies.

#### CSB Subcommittee on Facilities (SCF)

Dr. Córdova reported that CSB approved the report, *National Science Board Annual Portfolio Review (APR)* (NSB/CSB/SCF-12-4, Board Book page 119), which was previously approved by the subcommittee, subject to final edits. The APR is used to inform and speed decision making in addition to providing guidance on project prioritization and strategic budget planning. She commended Dr. Carl Lineberger, SCF chairman, and Dr. Griffiths for their work to produce this report. The committee recommended full Board approval, and based on that recommendation:

The Board unanimously APPROVED the report, *National Science Board Annual Portfolio Review* (NSB-12-44), subject to final edits by the SCF chairman, the CSB chairman, and the Board Chairman.

Dr. Arvizu adjourned the Open Session at 12:10 p.m.

*[signed]*

Ann A. Ferrante  
Executive Secretary  
National Science Board

**NATIONAL SCIENCE BOARD**

**CALENDAR OF MEETINGS**

**2013**

February 20 - 21  
(Wednesday - Thursday)

May 9 - 10  
(Thursday - Friday)  
[Annual Meeting and Awards Dinner]

August 15 - 16  
(Thursday - Friday)

September 19 - 20  
(Thursday - Friday)  
[Annual Retreat and Visit]

November 21 - 22  
(Thursday - Friday)