National Science Foundation
Advisory Committee for International Science and Engineering
May 24, 2018
Virtual Meeting

Meeting Minutes

AC-ISE Members in Attendance
Susan Avery, Jay Cohen, José Fortes, Julio Ibarra, Caroline Wagner, Nai-Chang Yeh

AC-ISE Members not in Attendance
Meg Lowman, Anne Peterson, Steven McLaughlin

Subcommittee on International Network-to-Network Collaboration Members in Attendance
Ann Austin, Kristin Vanderbilt

Introductions and Opening Remarks
Susan Avery, Chair, AC-ISE
Dr. Susan Avery, Chair of the National Science Foundation (NSF) Advisory Committee for International Science and Engineering (AC-ISE), called the meeting to order and turned to Dr. Caroline Wagner for an overview of the Report from Subcommittee on International Network-to-Network Collaboration.

Overview of Report from Subcommittee on International Network-to-Network Collaboration
Caroline Wagner, Member, AC-ISE
Dr. Wagner, AC-ISE member and Chair of the Subcommittee on International Network-to-Network Collaboration, provided an overview of the key points of the Subcommittee report. In September 2017, the NSF Office of International Science and Engineering (OISE) released a Dear Colleague Letter inviting individuals or groups of individuals from the U.S. research community to submit White Papers on topics in science, engineering, and/or STEM education ripe for international network-to-network collaboration. The Subcommittee was charged with providing input to OISE for use in potential program planning in this area. Dr. Wagner noted that the Subcommittee members agreed that this topic is timely, especially in some research fields, and appropriate for NSF to pursue. As different research communities are at different levels of readiness to engage in international networks of networks, the Subcommittee recommended that OISE consider a phased approach for any potential programming approach. The Subcommittee also encouraged OISE to consider metrics to determine progress. Dr. Avery commented on the importance of growing networks of networks and thanked the Subcommittee for its work.

A question was raised regarding benefits to international participants in a network of networks. Dr. Wagner replied that the Subcommittee considered whether resourcing of international network members could be an option, particularly in developing nations. The recommendation of a phased approach could take such an option into account.

In response to a question on OISE's engagement with the NSF Research Directorates in establishing new or enhancing existing networks, it was noted that OISE has been engaging with the Directorates to date and will continue to do so should planning move ahead.

The AC-ISE expressed concerns over security issues that could arise in an international network of networks setting. Dr. Rebecca Keiser, Head of OISE, noted that NSF will closely coordinate with other Federal entities to address this concern while maintaining the NSF culture of openness. The potential for issues related to intellectual property and proprietary information was also noted. The AC-ISE suggested engaging universities on this topic and others issues to gain lessons learned.

A question was raised regarding funding timeframes for supporting networks of networks. Other nations typically look for longer-term and more strategic funding than NSF is able to support. Dr. Wagner noted that the Subcommittee discussed the potential for matching funds from international groups or societies, and the opportunity to consider multiple sources of funding to bridge gaps in timing.

The AC-ISE discussed possibilities for briefing other Federal agencies and Congress on a potential program focused on international networks of networks. Development of a strategy for sharing information gained from networks of networks was also discussed in relation to interest from Congress and informing the public on research advances. Dr. Keiser welcomed AC-ISE input on approaches to such outreach.

The AC-ISE commented on the need for additional clarity on the definition of networks. Dr. Keiser noted that at this stage, OISE is maintaining the idea of openness on who may engage. The AC-ISE suggested that any program solicitation that may eventually be developed describe network of network operating principles so there is an understanding from the beginning of what principles NSF expects. While it is not possible to anticipate all situations, having principles and evaluation criteria in place will present a strategy for funding principled networks of networks.

The AC-ISE approved the Subcommittee report, which will be made public. OISE will provide an update on planning during the June 18-19, 2018, AC-ISE meeting.

Overview of Report from the Committee of Visitors on the Board on International Scientific Organizations
José Fortes, Member, AC-ISE
Dr. José Fortes, AC-ISE Member and Chair of the Committee of Visitors (COV) on the Board on International Scientific Organizations (BISO), provided an overview of the COV's process and report. COV reviews provide NSF with external expert judgments in two areas: 1) assessments of the quality and integrity of program operations and program-level technical and managerial matters pertaining to proposal decisions; and 2) comments on how the outputs and outcomes generated by awardees have contributed to the attainment of NSF's mission and strategic outcome goals.

In determining the quality and efficiency of the BISO program, the COV examined:
- Coherence between the BISO and the NSF missions;
- Process for submission and evaluation of different types of BISO proposals (including "core" and "non-core" proposals);
- Role of the scientific community in conceptualizing, participating and providing input to BISO proposals.
- Assessment and outcomes evaluation of the BISO proposals; and

- Dwell time and burden on staff at both NAS and NSF to produce and process proposals, and to manage interactions.

The COV found that the above aspects of the BISO program are often inconsistent across proposals and NSF units, obscuring the "value-added" for the U.S. scientific community. The Committee's main recommendation is that NSF pilot a new framework for the BISO program.

Dr. Avery and Dr. Keiser thanked the COV for its work. NSF has provided a response to each recommendation and currently is considering adjustments to the program, including a program solicitation.

The AC-ISE approved the COV report, which will be made public. OISE will provide an update during the June 18-19, 2018, AC-ISE meeting.

Dr. Avery adjourned the meeting at approximately 10:45 a.m.