



**Advisory Committee for International Science and Engineering (AC-ISE)
Office of International Science and Engineering (OISE)
National Science Foundation**

**2021 March Meeting (Virtual)
March 19, 2021**

Meeting Summary

MEETING PARTICIPANTS

AC-ISE Members Present

Dr. Caroline Wagner, AC-ISE Chair, The Ohio State University
Rear Admiral Jay M. Cohen, The Chertoff Group
Dr. Martha Haynes, Cornell University
Dr. Shafiqul (Shafik) Islam, Tufts University
Dr. Holly Jones, Northern Illinois University
Dr. Bette Loiselle, University of Florida
Dr. Keith Marzullo, University of Maryland
Dr. Anne Petersen, University of Michigan
Dr. Nai-Chang Yeh, California Institute of Technology
Dr. Padma Raghavan, Vanderbilt University
Dr. Mary (Missy) Cummings, Duke University

Speakers/Presenters/OISE Senior Management Team

Kendra Sharp, AC-ISE /Office Head, OISE
 Samuel Howerton, DFO ¹/Deputy Office Head, OISE
 Anne Emig, Cluster Lead, OISE
 Roxanne Nikolaus, Cluster Lead, OISE
 Caroline Wagner, AC-ISE Chair, The Ohio State University
 Cassandra Dudka, Program Manager, OISE
 Maija Kukla, Program Manager, OISE
 Erwin Gianchandani, Senior Advisor, OD ²

AC-ISE Administrative and Technical Team

Christopher Street, AC-ISE Executive Secretary/Staff Associate for Budget, OISE
 Victoria Fung, AC-ISE Secretary/Program Analyst, OISE
 Kirk Grabowski, IT Specialist, OISE

¹ DFO, Designated Federal Officer

² Office of Director, NSF

Call to Order, Introductions and Opening Remarks

Dr. Caroline Wagner of The Ohio State University and Chair of the Advisory Committee for International Science and Engineering (AC-ISE) called the advisory committee meeting to order at 10:00AM and welcomed advisory committee member introductions followed by a motion to approve the June 2020 meeting minutes – first motioned by Dr. Bette Loiselle and seconded by Dr. Jay Cohen, the committee unanimously approved the meeting minutes by voice vote.

Introduction to New OISE Office Head

The AC-ISE Chair welcomed the new Head for the Office of International Science and Engineering (OISE), Dr. Kendra Sharp of Oregon State University (OSU). Dr. Sharp began her presentation by sharing her appreciation to the committee members for their service to NSF and highlighted the importance of international collaboration and engagement during the time of COVID among addressing other pressing global challenges. Dr. Sharp noted, “international collaboration underpins a great deal of basic research that advances knowledge across all fields of sciences,” and highlighted the diverse disciplines of the members.

Dr. Sharp highlighted the NSF vision and pillars by which Dr. Sethuraman Panchanathan’s, the NSF Director, referenced in discussions about the NSF vision:

- Advancing the frontiers of science,
- Ensuring accessibility and inclusivity, and
- Securing global leadership.

Dr. Sharp continued to share how this vision is accomplished, by strengthening at speed and scale, and how the committee members expertise will help guide how OISE accomplishes this mission for impact. Dr. Sharp asked the committee to consider this concept when thinking about what OISE is doing and what OISE can do in the coming years.

Dr. Sharp’s presentation continued as she highlighted her professional experience that included tenure with Pennsylvania State University and Oregon State University. Dr. Sharp founded and directed OSU’s Humanitarian Engineering program and noted her research in sustainable water and energy and engineering design for development – a shift to applied research from her earlier focus on experimental fluid mechanics. Dr. Sharp shared her most recent roles with OSU as Senior Advisor for Global Affairs/Senior International Officer and Associate Vice Provost for faculty development.

Dr. Sharp’s introductory presentation concluded with OISE staff introductions and Q&A session between the advisory members and Dr. Sharp.

Remarks/Updates

Dr. Sharp began the overview session with reflections on the OISE areas of emphases that include promoting the development of a globally engaged workforce, facilitating and supporting international collaborations for research and education, and providing opportunities for U.S. leadership to shape the global science and engineering agenda. Dr. Sharp continued with an illustration of the thread between the NSB Vision 2030, the NSF Vision, and the Administration Pillars.

Countries & Regions

Following the introductory remarks, the Countries & Regions (C&R) and Program & Analysis (P&A) Clusters provided updates to the committee members. Roxanne Nikolaus, C&R Cluster Lead, began the C&R update by broadly noting the responsibilities of the cluster – leading the NSF science diplomacy direction and shaping the NSF strategy for international engagement, ensuring international collaboration across the NSF is possible – and noted major activities over the previous year.

Programs and Analysis

Anne Emig, P&A Cluster Lead, spoke briefly noting the responsibilities of managing OISE-led funding opportunities and data analytics efforts help to build the understanding of the NSF portfolio of awards to understand what NSF is doing in the international space and what opportunities might exist. Ms. Emig continued with an overview of the OISE-led funding opportunities that include Accelerating Research through International Network-to-Network Collaborations (AccelNet), International Research Experiences for Students (IRES), and Partnerships for International Research and Education (PIRE). Anne Emig updated the committee on the Future of International Research Collaboration in Post-COVID Era – a Dear Colleague Letter (DCL) designed to encourage research to improve understanding the impact of COVID-19 on international research collaboration and how to make it more resilient in the future. P&A Program Directors, Maija Kukla and Cassandra Dudka concluded this session by detailing the DCL objectives and providing examples of the types of awards received and funded from this funding opportunity.

Flows and Networks in Global Knowledge System

Dr. Caroline Wagner, AC-ISE Chair, began her presentation titled, “State of U.S. S&T in a Global World & the Rise of China as a Scientific Nation. This presentation focused on Dr. Wagner’s research on the flows and networks in the global knowledge system with the idea that each nation might represent a stock of knowledge and capacity.

Global Leadership in Science, Engineering, and Education

Roxanne Nikolaus, C&R Cluster Lead, facilitated a discussion on approaches to securing and maintaining global leadership. Ms. Nikolaus introduced the committee to ways in which OISE, and NSF more broadly, engages globally, and the application of approaches for improved integration between activities to achieve NSF’s mission at speed and scale. She offered discussion topics for the committee members’ consideration that directly asked for existing approaches and mechanisms that are ripe for scaling up international collaboration and potential connections or networks OISE should better engage.

Innovative Partnerships

The innovative partnerships session, led by Anne Emig, began with the introduction of Erwin Gianchandani who serves as Senior Advisor for Translation, Innovation, and Partnerships within the Office of the Director. Dr. Gianchandani discussed the ways in which NSF thinks about public-private partnerships and provided examples of activities undertaken to further consider

how NSF might think about partnerships moving forward. Dr. Gianchandani categorized NSF's partnerships into two types – direct, which are often with foundations and nonprofits, industry, and federal agencies, and catalyzed (indirect) partnerships that include university-led, industry-focused and international partnerships. Dr. Gianchandani concluded by sharing the perspectives from prospective partners that included tackling grand societal challenges, diversifying the STEM workforce, and leveraging blended teams.

The facilitation session, led by Ms. Emig, began with a visualization of the NSF vision that represented partnerships as one of the foundational pieces that undergirds the pillars of advancing the frontiers of research, ensuring accessibility and inclusion, and securing U.S. global leadership, and highlighted partnerships as a fundamental element of the NSF Vision 2030. The facilitated session aimed to answer questions related to building cross-sectoral partnerships to support progress on priority challenges through international collaboration (i.e., climate change, resilience, and racial equity), and key factors for development and growth of cross-sectoral partnerships for scalable action.

Meeting with NSF Director and Chief Operating Officer

Dr. Sethuraman Panchanathan, NSF Director, joined AC-ISE meeting accompanied by Dr. F. Fleming Crim, NSF Chief Operating Officer. Dr. Panchanathan highlighted the NSF mission and vision and emphasized the unique moment NSF finds itself with the underpinning of science through the new Administration and excitement about global collaborations and global partnerships. Dr. Panchanathan noted NSF was perfectly positioned to advance both the NSF 2030 aspirations as well as the Administration's aspirations for how the NSF moves the nation into the future.

Discussion/Future Recommendations

1. Discussion/Future Recommendations

Define global challenges through a project-level lens and consider rapid action items in the short term with focus on large questions like climate change. NSF can facilitate the conversation in a way that aligns the grand challenge/problem, policy, and politics. The committee suggests the approach to global challenges through a project-level lens will encourage global thinking that produces outcomes with measurable metrics.

2. Ensure NSF can pursue strategic partnerships with and/or tap into expertise of diverse international groups that can be complicated and complex to engage with (e.g., Climate and Land Use Alliance, Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, and the Green Climate Fund established within United Nations Framework Convention on Climate Change).

NSF could plan an important role in convening a diverse suite of stakeholders to leverage the full complement of resources to advance both the science and solutions. Co-creating problems and grand challenges to tackle to form joint efforts and emerge with greater ideas while centering accessibility and inclusivity.

3. Foundations have a roll, especially in the international arena and there are foundations that have interest in doing things international. The committee suggest exploring ways

to co-invest and co-sponsor activities like prize opportunities to motivated cooperation on collaboration.

4. The concept of globally scanning and locally reinvention was raised with specific focus on China. As NSF moves forward, the committee recommended the Director consider engagement with the FBI, CIA, and State Department to gain insights of policies and current politics of international engagement.
5. International components are important in many scientific fields due to recognition that more benefit is realized by joining as a collaborative venture and there are many aspects of science that are better undertaken in places other than the U.S. Since the NSF esteems diversity, equity, and inclusion it has been shown more diverse teams are more creative and innovative than teams that lack diversity. This concept should also be adopted for international partners – international environments require a level of respect for the respective community values.

Dr. Caroline Wagner adjourned the advisory meeting.