Updated Response to the 2014 COV for International Science and Engineering

The Office of International Science and Engineering reiterates our appreciation to the 2014 Committee of Visitors for International Science and Engineering for its efforts and thoughtful recommendations. Since the COV convened, the Office experienced a number of fundamental changes, all of them informed by the Committee's recommendations. OISE provides an updated response to each of the recommendations.

Recommendation #1: Continue to emphasize strengths and weaknesses under each merit review criterion in a panel summary.

OISE made it a priority to provide additional meaningful feedback to PIs on both review criteria as well as on program specific criteria. While a great deal of progress has been made on ensuring that panel summaries address both review criteria, we have more work to do in making inclusion of strengths and weaknesses under each criterion a standard part of an acceptable panel summary.

We have recently taken two steps that will help this effort. First, it is now standard practice to conduct orientations in advance of the panel. This increases the likelihood that reviews will include clear discussion of both intellectual merit (IM) and broader impacts (BI). This process also enables the panel moderator to educate reviewers about the elements of a strong panel summary. Panel summary guidance is reviewed at the start of the panel along with conflicts of interest and confidentiality details. The second change, initiated in FY 2017, is to centralize management of OISE's core programs, PIRE and IRES. Instead of distributing responsibility for panel management and award/decline write-up throughout the Office, we now have two program directors per program handling this responsibility. Preliminary evidence suggests this change improves quality and consistency in panel summaries and review analyses.

Recommendation #2: Provide greater guidance to PIs and panelists on what constitutes Broader Impact and how it will be assessed.

The National Science Board revisited the Intellectual Merit and Broader Impact review criteria in December 2011. Definitions remain broad to provide guidance without being prescriptive, encouraging the research community's creativity in addressing the criteria. OISE continues to stress the importance of addressing Broader Impacts in proposals, reviews and panel summaries and of linking research to societal impacts beyond the lab. We communicate this message in informational webinars to the research community about our programs and in pre-panel orientations for panelists.

OISE also participated in an NSF pilot, now in broad use, of a new panel orientation that incorporates updated and standardized guidance on broader impacts and on implicit bias. The use of standard information across all of NSF panels, including OISE's, has enabled us to follow Foundation-wide best practice on panel review.

Recommendation #3: Stability in leadership of the ISE is an essential next step and a director of ISE should be selected soon who can provide sustained leadership for a reasonable period moving forward.

This recommendation was adopted in full by NSF leadership. In spring 2014, the International Science and Engineering section was returned to independence as the Office of International Science and

Engineering and Dr. Rebecca L. Keiser was hired as the permanent Office Head. Subsequently Dr. Sam Howerton was hired as the permanent Deputy Office Head.

With this stability in leadership, the office proceeded with a reorganization that streamlined it from six clusters to three to reflect the smaller staff side. Clusters for Countries and Regions, Programs and Analysis, and Administration replaced clusters focused on regions and global programs. The new cluster structure has been in place since fall 2016 with a permanent cluster lead for Administration and acting cluster leads for Countries and Regions and Programs and Analysis. Permanent cluster leads are currently being recruited for the last two positions. OISE also hired a Supervisory Budget Analyst to round out the management team.

Recommendation #4: An ISE retreat should be held as soon as possible and in particular before the next round of 2015 proposals start coming into the ISE. A retreat would be very helpful and information to the ISE program to identify and discuss immediate next steps.

Since the last COV, OISE placed high priority on streamlining programs and other work. An office retreat in fall 2014 under Dr. Kelsey Cook, then-Acting Section Head for ISE, reviewed all OISE programs and non-programmatic activities in terms of cost-benefit for NSF, looking at both budget and staff resources.

A subsequent retreat in May 2016 under Office Head Rebecca Keiser went further with specific proposals from the Programs and Analysis Cluster for office-wide discussion and management approval. After several iterations of discussion and review, the Office agreed that we would move from ten unique programs and cofunding opportunities to three programs and one cofunding mechanism. The office began the process of messaging the changes to NSF colleagues and the research community in FY 2017, and the new structure, described below, is operational in FY 2018.

Previous OISE Programmatic Portfolio

> Partnerships for International Research & Education (PIRE) -- continues
> International Research Experiences for Students (IRES) – continues with improved approach
> East Asia & Pacific Summer Institutes (EAPSI) – paused in FY 2018, likely to be sunset
> Pan-American Advanced Studies Institutes PASI) – paused since 2013; sunset in FY 2018
> International Research Fellowship Program (IRFP) – sunset in FY 2018
> Catalyzing New International Collaborations (CNIC) – paused since 2014; sunset in FY 2018
> Global Venture Fund Cofunding Opportunity -- restructured
> Science Across Virtual Institutes (SAVI) Cofunding – sunset in FY 2018
> NSF/ERC/DFG CAREER & Postdoc Opportunity Cofunding – sunset in FY 2018
> INSPIRE Cofunding – sunset in FY 2017

New Programmatic Portfolio
- Partnerships for International Research and Education – international team science
- International Research Experiences for Students – global workforce development
  - New solicitation issued in October 2017 with a more diverse set of mechanism for student international experiences (NSF 18-505; https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12831)
    - Traditional PI-led cohort of students conducting research abroad
    - Advanced Studies Institutes for graduate students

- Institutional block grants for professional societies and associations (and, as appropriate, university partners) for graduate student research and research-related professional skill development
- Accelerating Research through Network-to-Network Collaboration – network-to-network science
  - Dear Colleague Letter: Seeking Community Input on Topic Ideas to Accelerate Research through International Network-to-Network Collaboration (NSF 17-131; https://www.nsf.gov/pubs/2017/nsf17131/nsf17131.pdf)
    - Ideas potentially will inform design of new funding opportunity, if funding allows
- Global Venture Fund cofunding – OISE, together with research directorate(s) when appropriate, develops strategic priority projects [in process]

- May 2016 retreat as the new cluster structure initiated
  - Advanced the process of rethinking OISE's programmatic portfolio
    - Further accelerated in summer, fall 2016
    - In place by fall 2018 (1Q FY 2018)

In addition to restructuring of programs, OISE established an analytics focus with an eye to providing evidence-based support for international engagement. Another retreat is planned for the first half of CY 2018 to re-examine the cluster structure, priorities and workload.

Recommendation #5: The AC-ISE needs to meet as soon as possible to address the Strategic Framework and this report, perhaps before the ISE retreat so that the AC recommendations could be discussed.

While the Strategic Framework that the COV reviewed in 2014 has not been implemented under the current NSF leadership, OISE leadership has articulated a more straightforward framework for international engagement:

NSF engages in international collaboration when it accelerates scientific advances, leverages NSF investment and resources, and advances our workforce development goals.

NSF international collaborations contribute to transformative science and engineering and produce impacts that help drive the U.S. economy, enhance national security, give the U.S. the competitive edge to remain a global leader, and advance knowledge and understanding.

This has been presented to the National Science Board, NSF leadership team, and the AC-ISE for feedback. All have been supportive of the framework.

Recommendation #6: ISE staff reductions combined with record increases in the number of ISE proposals have led to a disproportionate increase in the workload of remaining ISE staff. Additional ISE staff are critically needed to rebalance the workload within the ISE section.

OISE's staff has remained stable recently at 30 regular staff plus one AAAS Fellow. This is slightly higher than the office low-point in 2015. The office continues to work to secure additional staff. An increase in staff numbers has been complicated by Agency Reform. Like NSF overall, OISE is redoubling efforts to clarify priorities, eliminate redundancy and improve processes to maximize efficient utilization of existing resources.

Recommendation #7: Develop and implement a simple way for ISE staff to consistently quantify and document non-proposal activities that contribute to the international goals of NSF.

The logging system that OISE implemented after the 2014 COV has been effective in quantifying certain types of non-programmatic activity, especially OD Correspondence and OD Briefings. We also have an improved system of monitoring participation in Joint Committee Meetings and hosting international visitors. We keep closer tracks of collaborations with the research and education directorates to actualize certain priority collaborations.