

COMMITTEE ON EQUAL OPPORTUNITIES IN
SCIENCE AND ENGINEERING (CEOSE)
National Science Foundation

CEOSE May 2018 Meeting
May 30 – 31, 2018

MEETING MINUTES

MEETING PARTICIPANTS

<u>CEOSE Members Present</u>
Dr. Ira Harkavy, CEOSE Chair , University of Pennsylvania Dr. Louis Martin-Vega, CEOSE Vice Chair , North Carolina State University Dr. Gilda Barabino , CUNY Dr. Suzanne Barbour , University of Georgia Dr. Nancy Cantor , Rutgers University – Newark Dr. Peter Eden , Landmark College Dr. Jose D. Fuentes , Pennsylvania State University Dr. Juan Gilbert , Clemson University Dr. Kaye Husbands-Fealing , Georgia Institute of Technology Dr. Charles Isbell , Georgia Institute of Technology Dr. Alicia Knoedler , University of Oklahoma Dr. Daniela Marghitu , Auburn University Dr. Robert Eugene Megginson , University of Michigan Dr. Lydia Villa-Komaroff , Cytonome/ST
<u>CEOSE Members Absent</u>
Dr. Garikai Campbell , Morehouse College Dr. Nai-Chang Yeh , California Institute of Technology

<u>CEOSE Designated Federal Officer – Executive Liaison</u> Dr. Suzanne Iacono , Office Head, OIA/OD/NSF
<u>CEOSE Executive Secretary</u> Dr. Bernice Anderson , Senior Advisor, OIA/OD/NSF
<u>CEOSE Staff Associate</u> Ms. Jolaina Jeff-Cartier , Staff Associate, OIA/OD/NSF
<u>CEOSE Scientific/Technical/Administrative Staff</u> Ms. Una Alford , Program Analyst OIA/OD/NSF Mr. Steve Buhneing , Communication Specialist, OIA/OD/NSF Mr. J. Paul White , IT Specialist, OIA/OD/NSF

Welcome and CEOSE Chair Report

Dr. Ira Harkavy, CEOSE Chair, opened the meeting with an update of the new CEOSE changes, a welcome to the new CEOSE members and a request for self-introductions of other participants. The Chair then provided a brief report of a CEOSE concept paper authored by him and Vice-Chair, Dr. Louis Martin-Vega. The paper has been well received and focuses on problem-driven implementation research conducted by a diverse and expanded community as a strategy for both advancing knowledge and broadening participation.

NSF Executive Liaison Report

Dr. Suzanne Iacono, CEOSE Executive Liaison, welcomed everyone and provided the following updates: (1) The new HBCU Excellence in Research program, designed to improve research capacity and competitiveness in HBCUs, has OIA co-funding in the amount of \$20 million to match across directorates in FY 2018. (2) The new stewardship model for NSF's 10 Big Ideas is an innovative approach for managing these initiatives collaboratively across all participating organizations: the funding for each of the Big Ideas is managed by one unit on behalf of all of NSF. (3) Growing Convergence Research, designed to answer extremely challenging research questions raised by specific research challenges that require the integration of knowledge, tools, and ways of thinking from multiple disciplines, received approximately 300 responses to the FY 2018 "Dear Colleague" letter. About 14-20 research teams will be invited to submit full proposals. (4) NSF 2026 Idea Machine will be launched in August 2018, requesting the next set of big ideas from the research communities. NSF hopes to announce the first set of next big ideas in 2019. (5) The NSF INCLUDES investment currently has 70 launch pilots with hundreds of partners across the U.S. This fiscal year, the portfolio will expand to include EAGERs, more conferences, supplements, a coordination hub and NSF INCLUDES alliances. (6) Convergence accelerators will represent a new organizational structure intended to leverage external partnerships to accelerate convergent and translational activities in an area of national importance. The two inaugural convergence accelerators will focus on harnessing the data revolution and working at the human-technology frontier. The selection of awardees will be through a competition, as well as through traditional research proposals.

Responses to the 2015-2016 CEOSE Biennial Report

NSF applauds the Committee for its current report, which called for shared accountability in broadening participation. The Assistant Directors (AD), Deputy Assistant Directors and/or Senior Leaders shared current work to increase diversity and facilitate cultural change for a more inclusive STEM enterprise. Some of the efforts highlighted included: documentation activities associated with the REU sites (BIO); emphasis on BP reporting in annual reports (CISE); collection of common data to enhance the capacity of BP learning at the program, division, and directorate levels (EHR); collection of case studies linked to models for change to revolutionize engineering and computer science departments (ENG); and the use of BP working groups to conduct internal assessments of broadening participation issues (MPS), approximately 60 awards funded via the SBP activity (SBE), evaluation of leadership development

programs in the geosciences (GEO), roundtable discussion about feedback received regarding the proposed new term and condition related to sexual harassment (ODI), the new program evaluation of the IRES (OISE) and an implicit bias video shown to panelists (OIA).

Former NSF ENG AD Pramod Khargonekar, who is currently the Vice Chancellor of Research at the University of California-Irvine, states that higher education must be proactive to promote inclusion at all levels. He shared examples of actions such as leadership advocacy, outreach programs, and the use of evidence from trend analyses and the results of climate surveys for improvement and decision making. He also stressed the importance of integrating BP efforts and the need for resources to pilot new ideas; such as providing support for a campus professional to gather/collect, analyze, integrate and synthesize as well as critique broadening participation data of NSF-funded projects at the institutional level.

CEOSE members indicated an interest in knowing about the 10 best practices for increasing the number of women in engineering, the assessment/evaluation of the GOLD program and how to stay connected to the INCLUDES pilot efforts that did not get funded as INCLUDES Alliances. The Committee continues to encourage NSF to be innovative and elevate its focus on accountability, to better encourage a culture of inclusiveness. The shared accountability recommendation is calling for PIs, institutions, and NSF to collectively demonstrate their impact on broadening participation in STEM.

The ADVANCE Program Model and AAAS STEM Equality Achievement Project

The ADVANCE program (Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers) is transforming institutions of higher education to promote gender equity in STEM academic careers. The presentation by Dr. Jessie DeAro about the ADVANCE program provided evidence of the success of the program, using both quantitative and qualitative metrics. For example, over 75% of the funded Institutional Transformation awardees made policy changes in the areas of recruitment, hiring, research support, tenure criteria, standards for promotion to full professor, and work-life balance. A 2012 ADVANCE program evaluation reported that from 2001 to 2008, accomplishments included a 40 % increase in new women STEM hires and a 64% increase in STEM women in leadership positions. A few exemplary projects were highlighted showing how ADVANCE institutions (e.g., University of Michigan, University of California-Irvine, and Purdue University) are held accountable for equitable STEM structures, utilization of research-based inclusive practices and a STEM culture that supports a diverse STEM academic workforce. By focusing on organizational change strategies, there is a long-term equity impact at ADVANCE institutions. The ADVANCE program is currently working on a new solicitation.

The STEM Equity Achievement Project, better known as SEA Change and developed by the American Association for the Advancement of Science, is a “LEED-like” certification for diversity and inclusion in STEM higher education. Presenters Drs. Shirley Malcom and Beth Rudy discussed the institutional self-assessment of mission, policies, structures, leadership, culture and institutional makeup in the context of institutional transformation for equity, diversity, and inclusion. The self-assessment process promotes awareness, understanding, action, and reflection by having institutions undertake the following steps: (1) collect data, (2) critically analyze data, (3) use data to identify problem areas and why these are problematic, (4) develop a five-year action plan to address the problem areas and (5) show progress over time. Criteria have been established for recognition at the bronze, silver, and gold levels of

certification with a five-year mark for recertification. This effort is addressing structural barriers for women by moving institutions along a trajectory of change.

Community-Driven Partnerships

Dr. Rodney Hopson of George Mason University emphasized that a successful accountability system measures more than numerical changes. It must capture the organization as a lever of change and a steward of broadening participation. He pointed out the need for changing culture and the mindset of PIs and IHEs regarding BP accountability, calling for organizations to develop accountability action plans. He reiterated CEOSE's position on diversity as a compelling set of changes that lead to better science. Several questions were posed: What can institutional leaders, particularly university presidents, do to advance broadening participation? What can an institution do to effectively institutionalize broadening participation, so that it is part of the ongoing operations of the institution? What specific steps can higher education and national organizations take to make broadening participation a major focus of their agendas? Because institutions are anchored within a community and within generations, the institutional transformation for broadening participation needs to focus on creating community-based support for advancing diverse generational talent for STEM. The full engagement of communities in this process is critical.

Day 2: May 31, 2018 (Room 2010)

Welcome and CEOSE Chair Report

The CEOSE Chair opened the meeting and reviewed the agenda for the day. After deciding on information to share with the NSF Director, the Committee worked on the 2017-2018 biennial report. The key message of the upcoming report focuses on including diverse community voices as an essential strategy for advancing knowledge and broadening participation in STEM.

Geoscience Opportunities for Leadership in Diversity (GOLD)

Drs. Brandon Jones and Amanda Adams presented the background and the overview of the GOLD program. An Ideas Lab was employed to come up with innovative ideas to address the need to create more diversity leaders for the geosciences. The common theme that emerged was creating diversity champions through diverse leadership development teams involving both geosciences and social science scientists. The following five GOLD pilot projects have been funded to date:

1. Hearts of Gold: Using the influence of respected geoscientists to create champions for diversity in the geosciences.
2. Sparks for Change: Building a network of small groups as change agents to improve departmental culture and support of underrepresented minority faculty.
3. Geoscience Diversity Experiential Simulations (GeoDES): Using virtual avatars to provide professional development in equality and inclusion for cohorts of geoscientists that aim to minimize the effects of prejudice on gatekeeping decisions.

4. Fieldwork Inspiring Expanded Leadership and Diversity (FIELD): Creating more equitable cultures at geoscience fieldwork sites.
5. Active Societal Participation in Research and Education (ASPIRE): using ethical models of community-based geoscience research.

Greater details about the ASPIRE project were provided by Drs. Corey Gaza and Julie Posselt.

Ethics, Diversity and Inclusion

Dr. Billy Williams of the American Geophysical Union (AGU) stressed the importance of communicating the value of science and diversity to the public and policymakers. His presentation highlighted the work of AGU in advancing the code of conduct and ethical standards for professional behavior, promoting inclusivity in the earth and space sciences workforce, updating its policy about harassment and scientific misconduct and making available resources and the bias intervention program.

Reports of the CEOSE Federal Liaisons and the CEOSE Liaisons to NSF Advisory Committee

Dr. Bernadette Hence provided an update on efforts at the Department of Education to support HBCUs and HSIs. She discussed opportunities for minority serving institutions (MSIs) to get funding to support capacity-building research opportunities at federal laboratories. There is great interest in leveraging federal investments through interagency collaborations to improve the research competitiveness of MSIs.

Dr. Shalim Nemazee of the Smithsonian Institute (SI) emphasized SI's commitment to reach diverse audiences. His update highlighted diverse communities being served via the Smithsonian Learning Lab, traveling and virtual exhibits, an ambassador program, the Smithsonian science stories, and the K-12 teaching and learning programs of the science and education center.

Meeting with NSF Director and Chief Operating Officer

NSF director, Dr. France Córdoba, addressed convergence accelerators for the coming fiscal year, prompting CEOSE to discuss broadening participation in the context of a convergence phenomenon/problem. Diversity in all dimensions—thought, people, background, and culture, was discussed as being critical to integrating an inclusive community in current and future funding opportunities.

Dr. Cordova also recognized the many contributions of the outgoing CEOSE members: Drs. Ira Harkavy, Louis Martin-Vega, Charles Isbell and Nancy Cantor.

Announcements and Final Remarks

A presentation with data about NSF reviewers and PIs will be discussed at a future CEOSE meeting. Members were given data about diversity participation from the NSB 2017-6: Report to the National Science Board on the National Science Foundation's Merit Review Process Fiscal Year 2016.

The new CEOSE Chair is Dr. Jose D. Fuentes. Dr. Alicia Knoedler is the new Vice-Chair.

The next CEOSE meeting will be held in October 2018.