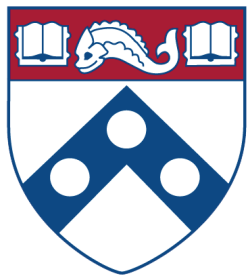


Broadening Participation in STEM From the Federal Perspective

April 20, 2016

National Alliance for Broader Impacts Summit 2016
University of Pennsylvania
Philadelphia, PA

Ira Harkavy
Associate Vice President
Founding Director, Barbara and Edward Netter Center for Community
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Netter Center
for Community Partnerships

UNIVERSITY of PENNSYLVANIA
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Committee on Equal Opportunities in Science and Engineering (CEOSE)

- Congressionally mandated advisory committee to the NSF, established December 1980
- Provides advice to NSF concerning:
 - Implementation of the provisions of the Science and Engineering Equal Opportunities Act
 - Other policies and activities to encourage full participation of women, minorities and persons with disabilities
- Prepares biennial report to Director to transmit to Congress
- 167 CEOSE recommendation since inception

NSF-Wide Engagement with CEOSE

- Request for Directorate/Office/Program Presentations
- Updates of NSF Activities Highlighted by NSF Leadership
- Sharing of NSF Resources at CEOSE Meetings and for the Biennial Report
- NSF-wide Input Concerning the 167 CEOSE Recommendations since Inception
- Nominations for Membership
- Engages Federal Liaisons to CEOSE

Membership

- Directorate/Office/Program Nominations
 - CEOSE is comprised of approximately 15 members appointed by the NSF Director
 - Members are appointed for a term of 3 years.
 - Members can be reappointed to serve one additional term of up to 3 years.
- Expectations
 - Members are expected to attend all meetings.
 - Members are encouraged to participate in all CEOSE activities (e.g., Biennial Report to Congress, Liaison to NSF Directorate Advisory Committees, Ad Hoc Subcommittees)

“Members are broadly representative of the science and engineering research and education community. Because of the specialized nature of the Committee, a significant number of women, minorities, and persons with disabilities are appointed members. Professional stature and familiarity with the National Science Foundation and its programs are considered in selecting Committee members.”

CEOSE Members, February 2016

Dr. Mary M. Atwater

University of Georgia

Dr. Nancy Cantor

Rutgers University- Newark

Dr. Garikai Campbell

Morehouse College

Dr. Peter Eden

Landmark College

Dr. Jose Fuentes

Pennsylvania State University

Mr. C. Michael Gooden

Integrated Systems Analysts, Inc.

Dr. Ira Harkavy (Chair)

University of Pennsylvania

Dr. Charles Isbell

Georgia Institute of Technology

Dr. Robert Jones

University at Albany

Dr. Alicia Knoedler

University of Oklahoma

Dr. Daniela Marghitu

Auburn Univeristy

Dr. Louis A. Martin-Vega (Vice-Chair)

North Carolina State University

Dr. Robert E. Megginson

University of Michigan

Dr. Loretta Moore

Jackson State University

Dr. Lydia Villa-Komaroff

Cytonome LLC (Retired)

Dr. Nai-Chang Yeh

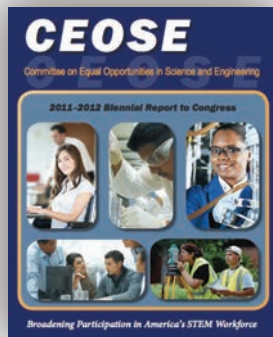
California Institute of Technology

CEOSE Liaisons to NSF Advisory Committees

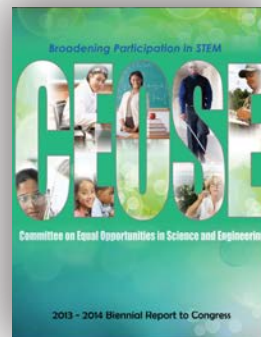
- Attend and participate in meetings and other activities of the assigned Advisory Committee (AC), offering suggestion for improvement
- Report to CEOSE on matters addressed in the AC meetings that have relevance to the CEOSE mandate
- Report to the AC on recommendations made by CEOSE

CEOSE Biennial Reports to Congress

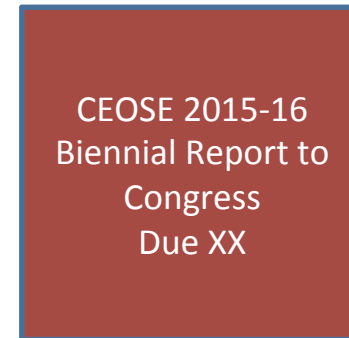
- Every two years, the Committee prepares and transmits to the NSF Director a report on its activities during the previous two years and proposed activities for the next two years.
- The Director transmits to Congress the report, unaltered, together with such comments as the Director deems appropriate.
- Two most recent and upcoming biennial reports to Congress: A 3-volume series



2011-2012 Report



2013-2014 Report



2015-2016 Report

2011-2012 CEOSE Report to Congress: A Call for a Bold New Initiative

Rationale

NSF should be commended for its outstanding leadership in broadening participation in STEM throughout the government and throughout America's scientific community, working toward full inclusion of persons from underrepresented racial and ethnic minority groups (African Americans, Hispanics, and Native Americans), persons with disabilities, and women. Indeed, broadening STEM participation constitutes an important thrust across the Foundation. Yet the changing nature of STEM, challenges to U.S. competitiveness, the creative advantages of achieving workforce diversity, concerns about global leadership and domestic security, and the drive to realize America's democratic principles by achieving America's promise of equal opportunity for all call for more innovative and transformative intellectual work, engaging scholars from multiple disciplines, in order to yield satisfactory inclusion of all Americans in STEM education and in the STEM workforce.

2011-2012 CEOSE Report to Congress: A Call for a Bold New Initiative

To better address emerging challenges and opportunities and the limited progress being made in improving broadening participation in STEM, the Committee on Equal Opportunities in Science and Engineering recommends that

NSF should implement a bold new initiative, focused on broadening participation of underrepresented groups in STEM that emphasizes institutional transformation and system change; collects and makes accessible longitudinal data; defines clear benchmarks for success; supports the translation, replication and expansion of successful broadening participation efforts; and provides significant financial support to individuals who represent the very broadened participation that we seek.

2013-2014 CEOSE Report to Congress: Implementation of a Bold New Initiative

In its 2013-14 report CEOSE reiterates its commitment to the 2011-2012 recommendation for a bold new initiative, and elaborates a framework of five essential components that will be needed for realizing the grand challenge of broadening participation and for successful implementation of the bold new initiative:

1. Develop and implement an effective preK-20+ system of STEM pathways;
2. Provide stable and sufficient direct support for individuals;
3. Support the further development of a science of broadening participation;
4. Conduct field experiments. . .to understand and mitigate the barriers to broadening participation; and
5. Recognize the field-specific nature of the broadening participation.

The report also emphasized that NSF can be the catalyst to help higher education take greater responsibility for a diverse STEM workforce, transforming STEM at all levels and educating STEM domestic talent that fully reflects and represents the US population.

2015-2016 CEOSE Report to Congress

In its next, third report in this series, CEOSE plans to articulate a set of recommendations for assessing the successful implementation of the bold initiative proposed and elaborated upon in the first two reports.

- Focus on Metrics “What has worked” and “How to Scale”
- Focus on Accountability and Institutional Change
 - NSF
 - Investigators and Institutions (particularly Higher Education Institutions) funded by NSF
- Develop an Accountability System

Committee on Equal Opportunities in Science and Engineering

WHAT SHOULD AND COULD BE DONE
IN THE FUTURE?