

Committee on Equal Opportunities in Science and Engineering (CEOSE)
Meeting Minutes
October 26, 2023
National Science Foundation
Alexandria, VA 22314

MEETING PARTICIPANTS

CEOSE Members Present

Dr. Jose D. Fuentes, CEOSE Chair, Pennsylvania State University
Dr. Kaye Husbands-Fealing, CEOSE Vice-Chair, Georgia Institute of Technology
Dr. John M. Anderson, Howard University
Dr. Gilda Barabino, Olin College of Engineering
Dr. Suzanne, Barbour, University of North Carolina at Chapel Hill
Dr. Tabbetha Dobbins, Rowan University
Dr. Ann Gates, The University of Texas - El Paso
Dr. Cynthia Lindquist, Cankdeska Cikana Community College
Dr. James R. Martin, University of Pittsburgh
Dr. Vernon Morris, Arizona State University
Dr. Timothy Pinkston, University of Southern California
Dr. Susan Renoe, University of Missouri-Columbia
Dr. Barbara Endemaño Walker, University of California-Santa Barbara
Dr. Nai-Chang Yeh, California Institute of Technology
Dr. David R. Wilson, Morgan State University

CEOSE Members Absent

Dr. Sandra Graham, University of California-Los Angeles

CEOSE Designated Federal Officer – Executive Liaison

Dr. Alicia Knoedler, Office Head, OIA/OD/NSF

CEOSE Executive Secretary

Dr. Bernice Anderson, Senior Advisor, OIA/OD/NSF

CEOSE Scientific/Technical/Administrative Staff

Ms. Una Alford, Program Analyst, OIA/OD/NSF

Mr. Steven Buhneing, Communications Specialist, OIA/OD/NSF

Ms. Jolaina Jeff-Cartier, Staff Associate, OIA/OD/NSF

CEOSE Advisory Committee

Virtual Meeting

National Science Foundation (NSF)

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Draft Meeting Minutes

Welcome, Introductions, Opening Remarks

Dr. Jose D. Fuentes, CEOSE Chair, opened the meeting with a welcome and meeting expectations. After members introduced themselves, Dr. Fuentes commented on several positive CEOSE discussions with NSF leaders. Additionally, the following members were applauded for recent accomplishments/achievements: Drs. Kaye Husbands Fealing, Jose D. Fuentes, Ann Q. Gates, Vernon Morris, Susan Renoe, and Nai-Chang Yeh.

Presentation: Report of the NSF CEOSE Executive Liaison

Dr. Alicia J. Knoedler began her report with words of deep appreciation for outgoing CEOSE members: Dr. Jose D. Fuentes and Dr. Nai-Chang Yeh. The Executive Liaison Report covered the following areas: 1) a recap of the Equity Ecosystem Expo of NSF's work related to broadening participation, diversity, equity, inclusion, and accessibility, noting that Ann Gates and former CEOSE member Daniela Marghitu were presenters and there was a poster about CEOSE at this event; 2) an update about the GRANTED Initiative (<https://new.nsf.gov/funding/initiatives/broadening-participation/granted>) that has funded 25 convenings/workshops/conferences with 38 percent of the Lead PIs as new PIs with no prior NSF experience and the proposed new language for the next PAPPG (NSF Proposal and Award Policies and Procedures Guide: 24-1) about seeking and obtaining Tribal Nation permission for proposals that may impact tribal resources or interests (https://www.nsf.gov/bfa/dias/policy/papp/pappg24_1/FedReg/draftpappg_april2023.pdf) as bold leadership actions; 3) status of three leadership positions—Dr. Sylvia Butterfield as Acting Assistant Director for SBE and AD searches for CISE and the MPS Directorates; 4) a new PI and Reviewer Survey report; 5) the new workspace management policy and telework policy program for NSF; and 6) the transmittal of the 2021-2022 CEOSE Report to Congress on August 22, 2023, and its distribution within NSF and externally via approximately 90K emails. The Committee shared insights and/or challenges about the guidance related to working with Tribal communities, the sharing of proposal and award rates for GRANTED, and the value of working with various types of institutions, faculty/researchers sustaining research competitiveness, building a nurturing/caring research culture at ERIs, and the need for post-award management proposals.

Presentation: NSF Initiatives to Advance Persons with Disabilities in STEM

The presenters for this session were Dr. Diana Elder, Division Director, NSF/Directorate for STEM Education (EDU)/Division of Equity for Excellence in STEM (EES); Dr. Mark Leddy, Lead Program Officer, EDU/EES; and Dr. Christopher Atchison, Program Officer, EDU/EES. The EES team shared

information about persons with disabilities in STEM and STEM education and highlighted NSF funding opportunities focusing on persons with disabilities. A key point was that ample research and literature is supporting that the employment and inclusion of persons with disabilities create advantages and benefits for organizations, including industry, government, and institutions of higher education. EES recently funded the National Academies to conduct a workshop series focused on making STEM more inclusive of people with disabilities (“Beyond Compliance: Workplace Barriers, Access, and Inclusive Policies Impacting People with Disabilities in the STEM Workforce:” <https://www.nationalacademies.org/our-work/beyond-compliance-promoting-the-success-of-people-with-disabilities-in-the-stem-workforce>). Relevant data from the NCSSES Diversity and STEM reinforced the position that we need to “reimagine STEM so that people with disabilities are included from the start, included as trainees, included as leaders.” Another critical point was that the fear of discrimination in our ablest society is a very powerful force that limits reporting, resulting in respondents not disclosing or underreporting their disabilities.

The presentation shared three important levers to broaden the inclusion of persons with disabilities in STEM and STEM Education. 1. Executive Order 13895 (January 2021) directed Federal agencies to assess barriers to assessing Federal benefits and opportunities and allocate resources to promote equitable delivery of Federal benefits and opportunity, including for people with disabilities. 2. NSF's strategic plan for 2022-2026 underscores the importance of enabling full participation by all groups, particularly those underrepresented and underserved in STEM, and to grow a diverse STEM workforce that will advance the progress of science and technology. 3. The National Science Board has proposed a population-based target to significantly increase the number of persons with disabilities in the STEM workforce, with metrics and targets in 2017, 2025, and 2030.

The EES team showcased how funding opportunities for and about persons with disabilities can be found throughout NSF's programs and initiatives. The investments that were highlighted included: Facilitation Award for Scientists and Engineers with Disabilities (FASSED), designed to reduce or remove barriers for participation in environment and training and encourage pursuit of careers in STEM; Track H: Enhancing Opportunities for Persons with Disabilities of the Convergence Accelerator Program, supporting 16 multidisciplinary Phase 1 teams to develop use-inspired solutions to enhance quality of life, employment access, and opportunities for persons with disabilities; the Artificial Intelligence Research Institute at the State University of New York, focused on transforming education for children with speech and language processing challenges; and the Alliance for Students with Disabilities for Inclusion, Networking, and Transition Opportunities in STEM at Auburn University, funded by the NSF Eddie Bernice Johnson INCLUDES Initiative, involving 27 universities and colleges in a partnership to increase the number of students with disabilities who complete associate, baccalaureate, and graduate STEM degrees and enter the STEM workforce. Additionally, four relatively recent agency-wide and EDU-wide funding opportunities were described briefly: Dear Colleague Letter: STEM Access for Persons with Disabilities ([NSF 23-160](#)), Workplace Equity for Persons with Disabilities in STEM and STEM Education ([NSF 23-593](#)), Dear Colleague Letter: Research to Improve STEM Teaching, Learning, and Workforce Development for Persons with Disabilities ([NSF 21-114](#)), and Dear Colleague Letter: Persons with Disabilities – STEM Engagement and Access ([NSF 21-110](#)). Members were encouraged to visit the NSF BP in STEM website to learn more about the broadening participation of persons with disabilities in STEM and STEM education

(<https://new.nsf.gov/funding/initiatives/broadening-participation/supporting-persons-disabilities-stem>). The Committee members engaged with the EES team on issues related to data and the return on the investment, how evidence is used to propose new directions, the needed change in culture and leadership to create the various funding opportunities, valuing the social model of disability that focused on the problems with the environment and not the individuals, generational differences in reporting and retention data for persons with disabilities, infrastructure recommendations for ensuring accessible spaces, attitudinal barriers, financial resources impacted by accommodations and medical costs, and the incredible work of the DO-IT Center.

The answer to the question of why do so much for so few is we all benefit!

Update on Dissemination Activities of the 2021 – 2022 CEOSE Report

Dr. Fuentes thanked NSF for developing dissemination materials for the current report, especially the slide deck, and for distributing the report beyond the traditional listing of approximately 130 STEM organizations. The possibility of a report video is still under consideration. Some of the members shared how they have been distributing the current CEOSE report and the positive comments they are receiving about the report across various STEM communities. Other feedback included the usefulness of the report such as PIs referencing the CEOSE report in their proposals and some universities leveraging the intersectionality recommendations/suggestions to improve their data collection efforts. An idea proposed for a future report was to plan to do a podcast as an opportunity to reach a broader and/or younger audience in the age of digitization. Additionally, the Chair shared some insight on the types of questions to anticipate when making a presentation about the CEOSE report.

Discussion with NSF Leadership

Dr. Karen Marrongelle, NSF Chief Operating Officer, expressed heartfelt thanks to each member for their dedication to CEOSE and acknowledged the service, contributions, and impacts of outgoing CEOSE members Jose Fuentes and Nai-Change Yeh. She pointed out that the CEOSE reports are taken very seriously, and that leadership is still digesting the recommendations/suggestions; “feedback is forthcoming.” She also highlighted the Equity Ecosystem Expo and shared that Dr. Rory Cooper of the University of Pittsburg, a tireless advocate and inventor of work to empower Americans with disabilities, was awarded the National Medal of Technology and Innovation.

Dr. Yeh expressed her gratitude as a two-term CEOSE member and pointed out that the work CEOSE is doing is important for everyone. She emphasized that broadening participation is multidimensional in that there are a multitude of ways to reach people and that many of the world’s problems are solved and made easier when different groups come together with different experiences to push toward a goal, like advancing the US science and STEM workforce.

Dr. Fuentes commended NSF leadership for supporting CEOSE activities and being responsive to CEOSE’s advice, recommendations, and/or suggestions. He stated that serving on CEOSE is among the top of his professional achievements.

Discussion: CEOSE Rural STEM Education Report/Brief

Dr. Tabbetha Dobbins reviewed the report requirements and connected it to the CEOSE theme, *making visible the invisible*. Stating that rural communities are in every US state, she presented demographic data and educational statistics about rural STEM education (e.g., 29 percent of the public schools are in rural areas, serving 9.8 million students). The data revealed that two demographic populations—the American Indian and Alaska Native population and the Hispanic population—have higher representation percentages in rural America, compared to their national statistics for US demographics. NSF’s past K-12 rural STEM education investment was the Rural Systemic Initiative (RSI). Currently, support for precollege rural STEM education projects is within existing programs focused on informal science learning opportunities, large systemic change efforts, culturally responsive pedagogy, and teacher education funding opportunities. The report also highlights rural projects that have a high potential for a high impact on rural students’ STEM participation. Opportunities that need to continue include the use of schools as community centers to increase the involvement of families in STEM activities, place-based learning, dual enrollment programs, and preparation of rural students for the skilled technical workforce as well as the science and engineering workforce.

The report needs to convey a compelling message about the benefits and assets of rural STEM education in America. Members were asked to raise concerns/issues about the report, identify gaps, and provide suggestions to enhance the work of the Writing Team. Ideas from the discussion included: give some attention to the influence of the pandemic for the future of rural education; stress connections between STEM education and extension services; consider incentives for STEM jobs, commercialization, and innovation; point out the importance of reading proficiency for performance in STEM; suggest a Teaching for Rural America investment; mention the role of K-12 STEM education in the context of economic development and regional economic growth (e.g., place-based learning opportunities and the TIP Engines); emphasize the need to increase Internet/broadband access for rural students; upscale family engagement to promote intergenerational learning; do not dismiss financial issues; highlight the intersectionality of rurality and Native populations; strengthen the STEM pathway connectivity among industry involvement, local opportunities, and K-12 STEM education; frame learning as a lifestyle and not an event; and rethink the graphics depicting career pathways and the past/current NSF programmatic investments. The discussion ended with comments that mentoring should not be overlooked or understated and the reminder that most of the learning in our lives occurs informally in households and communities.

Reports of the CEOSE AC Liaisons

Three AC Liaisons provided reports. The BIO AC meeting included a discussion about Executive Order 1481 which addresses the biotech and the biomanufacturing workforce. Recommendations for building the Bio workforce for the future included: 1) expand and diversify the talent pool for biomanufacturing jobs, 2) strengthen worker-centered partnerships, 3) innovate education and training for the bioeconomy, 4) partner with state, local, and Tribal governments as well as education providers and unions to raise awareness of the potential careers in bioeconomy, and 5) improve data and analytic capacity and cross-sector collaboration to advance equity and workforce development. Dr. Barbour linked these areas to recent discussions of CEOSE regarding the skilled technical workforce, rural STEM education, access to online databases, teacher preparation and engagement, and industry opportunities and curriculum alignment.

Dr. Dobbins highlighted the work of the MPS Large Scale Infrastructure Committee. Within the set of priorities for large infrastructure investments is an emphasis on workforce development and workforce training. Additionally, there is specific mention of/ DEIA concepts and the geographic distribution of resources.

Dr. Gates briefly noted the thematic areas of the Office of Cyberinfrastructure, underscoring that efforts are focused on a broader engagement of communities across the research enterprise. She also highlighted AI pilots, especially engaging rural communities and minority-serving communities to make sure that these diverse voices are included as AI systems are being developed.

Announcements and Final Remarks

On behalf of the Committee, Dr. Husbands Fealing paid tribute to the outgoing CEOSE Chair. She enumerated Dr. Fuentes' services and accomplishments from being a CEOSE member to his outstanding leadership as CEOSE Chair for five years. After she expressed deep appreciation, other members thanked him for pushing CEOSE to do more; challenging CEOSE to think in a different way to move beyond the initial projection of what the Committee might be able to do; being a model for what it means to lead with inclusion and an asset-based mindset, being balanced with a gentle forcefulness, and being a thoughtful, servant leader. His commitment/dedication to CEOSE has been and is exceptional. Dr. Fuentes responded positively to the accolades, volunteered to be a CEOSE Ambassador, shared best wishes for each member's professional success, and expressed great confidence in the incoming leadership of CEOSE and the Committee's success in helping the Foundation to do and be better in broadening participation in STEM. Additionally, Dr. Yeh was given words of appreciation and best wishes for success in her future endeavors.

After announcing that the next meeting will be in February 2024, the Chair adjourned the meeting.