Progress in broadening participation has been insufficient to meet increased challenges despite decades of efforts to improve representation of people from underrepresented groups (women, African Americans, Hispanics/Latinos, American Indians/Alaska Natives and persons with disabilities) in science, technology, engineering, and mathematics (STEM). Therefore, in its previous two reports, CEOSE focused its recommendations to NSF on ways to “move the needle” to achieve demonstrable progress in broadening participation.

In its 2011-2012 report, CEOSE focused on a single recommendation calling for a bold new initiative to broaden participation. That recommendation resulted in the establishment of an NSF initiative “Inclusion Across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science” (NSF INCLUDES) launched in FY 2016, which CEOSE members recognized as a promising initial response.

CEOSE’s 2013-2014 report reiterated the recommendation for a bold new initiative and proposed five specific components of a plan for implementation (i.e., develop and implement an effective preK-20+ system of STEM pathways; provide stable and sufficient direct support for individuals; support the further development of a science of broadening participation grounded in empirical research; conduct field experiments to understand and mitigate the barriers to broadening participation; and recognize the field-specific nature of the broadening participation challenge).

In this 2015-16 report, CEOSE recommends developing an accountability framework for assessing the full development of the bold new initiative advocated in the first two reports as well as the overall broadening participation portfolio:

“NSF should adopt a framework based on the information and principles in this report that ensures true shared accountability for PIs, for institutions, and for NSF itself in promoting participation and excellence in science and engineering by deliberately and fully utilizing all the talent and potential the Nation has to offer.”
An accountability framework for broadening participation must have a set of clear assumptions, definitions, goals, and metrics, as well as a strategy for change and it must adhere to several clear principles:

• The framework should take into account local conditions, context and history;
• The framework must encourage success by requiring accountability from the beginning;
• The framework must require evaluation systems that allow periodic feedback to modify practice;
• The framework must encourage learning from and through implementation of programs and projects; and

And, accountability, in the context of NSF’s broadening participation efforts, must be addressed at three basic levels:

• The first is at the level of the individual project, where PIs are accountable for using grants to the best of their ability to accomplish the project’s goals, as well as reporting and disseminating the outcomes of their projects.

• The second level is the level of the institution (particularly higher education institutions), where they are jointly held accountable with PIs for monitoring grant expenditures and meeting reporting requirements.

• The third is at the level of NSF itself, where NSF is accountable for using its funding vehicles effectively to further the U.S. scientific endeavor and having the data available to demonstrate that it is doing so.

CEOSE recognizes and applauds NSF’s efforts across the Foundation to broaden participation, including embracing the challenge of implementing a bold new initiative around broadening participation. NSF has an important role to play among federal funding agencies and can lead the way in building an accountability system that provides incentives to principal investigators and institutions of higher education to move with urgency toward the goal of broadening participation. The recommendation and suggested practices in the report are meant to strengthen activities/practices that allow NSF, its constituents, and its partners: to understand their collective progress on their shared goals around broadening participation, to adjust as necessary to achieve those goals; and to, above all, be accountable to those goals.

2015-2016 Biennial Report to Congress