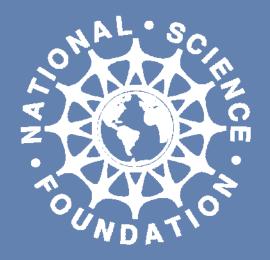# Broadening Participation at the National Science Foundation: A Framework for Action

Executive Summary

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EXECUTIVE SUMMARY

The National Science Foundation (NSF) supports the most meritorious ideas submitted as proposals from researchers and educators in all fields of science, technology, engineering, and mathematics (STEM). Creating opportunities and developing innovative strategies to broaden participation among diverse individuals, institutions, and geographic areas are critical to the NSF mission of identifying and funding work at the leading edge of discovery. The creative engagement of diverse ideas and perspectives is essential to enabling the transformative research that invigorates our nation's scientific and engineering enterprise. Broadening participation infuses science and engineering excellence into varied individual, institutional, and geographic networks and provides for the discovery and nurturing of talent wherever it may be found.

NSF defines broadening participation in terms of underlined individuals from underrepresented groups as well as institutions and geographic areas that do not participate in NSF research programs at rates comparable to others. Broadening participation is part of the overall merit review process used at NSF. Some NSF programs, however, have a particular focus or emphasis on broadening participation, and these comprise NSF's Broadening Participation Portfolio.

To integrate broadening participation with NSF's core processes, such as merit review and award oversight, NSF is pursuing a set of seven action items recommended by a working group in consultation with NSF staff, senior management, and advisory committees. Together these action items form a framework for implementation. They include actions to broaden the pool of reviewers, train NSF staff and reviewers, ensure accountability for NSF staff and principal investigators, communicate guidance and promising practices, and maintain a portfolio of relevant programs.

Recommended Action Items to Broaden Participation

1. Maintain and update regularly the NSF portfolio of broadening participation programs to facilitate NSF-wide coordination of efforts to more actively engage all people, from all types of institutions, and all regions of the nation in the science and engineering enterprise.

2. Increase the diversity of scientists and other STEM experts who review NSF proposals by initiating the development of a searchable reviewer system with accurate demographic data, encouraging reviewers to provide demographic data, cultivating additional reviewer sources, and encouraging NSF staff to use a more diverse reviewer pool.

3. Provide training for staff on NSF priorities and mechanisms for broadening participation and workforce development, including topics such as outreach

approaches, reviewer selection, and mitigation of implicit bias in the review process.

4. Communicate clearly broadening participation and workforce development guidance and promising practices within NSF and throughout the STEM community. Establish a publicly accessible web page to facilitate broad dissemination and consultation.

5. Enhance the accountability and tracking of NSF-supported broadening participation efforts through several means, such as encouraging Principal Investigators (PIs) to report outcomes of broadening participation activities as part of the reporting process for grants and initiating the development of NSF-wide reference codes for all broadening participation funding activities.

6. Promote effectiveness and relevance of the NSF broadening participation portfolio via periodic evaluations, including external reviews ranging from the program level to larger cross-sections of the portfolio.

7. Develop an implementation schedule based on the above recommended action items. Include in the schedule a timetable with allocated resources and assignments to specific groups, along with periodic evaluations of each action item's completion and impact. Disseminate a draft for internal comment and subsequently for external comment.