

**INCLUSION ACROSS THE NATION OF COMMUNITIES
OF LEARNERS OF UNDERREPRESENTED DISCOVERERS
IN ENGINEERING AND SCIENCE (NSF INCLUDES)**

NSF INCLUDES Funding
(Dollars in Millions)

	FY 2018 Actual	FY 2019 (TBD)	FY 2020 Request
Stewardship Activities (EHR)	-	-	\$20.00
Foundational Activities	\$17.95	-	-
BIO	1.40	-	-
CISE	1.93	-	-
EHR	5.47	-	-
ENG	1.41	-	-
GEO	2.44	-	-
MPS	2.83	-	-
SBE	0.58	-	-
IA	1.90	-	-
Total	\$17.95	-	\$20.00

Overview

The NSF INCLUDES Big Idea aims to develop a talented, innovative, and capable STEM workforce that reflects the diversity of the Nation. For the United States to remain the world leader in STEM innovation and discovery, it must identify and develop talent from all sectors to become tomorrow’s STEM professionals. Indeed, providing opportunities and support for members of all communities and sectors across the Nation is both necessary for the Nation’s economic welfare and NSF’s commitment to broadening participation.

NSF INCLUDES is NSF’s response to the Committee on Equal Opportunities in Science and Engineering’s (CEOSE) 2011-2012 Biennial Report to Congress¹ recommending:

“NSF implement a bold new initiative focused on broadening participation of underrepresented groups in STEM, similar in concept and scale to NSF’s centers, 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 broadening participation that we seek” (p. v).

As part of NSF’s continuing response to CEOSE’s recommendation, NSF has committed to a plan spanning ten-years, FY 2016 – FY 2025. Specifically, NSF is investing in developing and sustaining the NSF INCLUDES National Network. The overarching goal for NSF INCLUDES is to achieve significant impact at scale in transforming STEM education and workforce development. To achieve this vision, NSF is funding a suite of projects, including NSF INCLUDES Design and Development Launch Pilots (funded in FY 2016 and FY 2017), NSF INCLUDES Alliances (funded in FY 2018 and FY 2019), and an NSF INCLUDES Coordination Hub (funding commenced in FY 2018). These activities form the foundation for the NSF INCLUDES National Network. Opportunities to join the NSF INCLUDES National Network have been extended to other NSF-funded projects through on-ramps and language in more than 10 EHR and

¹ www.nsf.gov/od/oia/activities/ceose/reports/Full_2011-2012_CEOSE_Report_to_Congress_Final_03-04-2014.pdf

NSF INCLUDES

R&RA program solicitations inviting projects that align with the principles of NSF INCLUDES. Other organizations (e.g., K-12 school districts, colleges and universities, professional organizations, government agencies, foundations, businesses and industries) will also be able to join the NSF INCLUDES National Network and support its goals. NSF INCLUDES Alliances will serve as test beds for designing, implementing, studying, and refining change models that are based on collective impact-style approaches.² Thus, the NSF INCLUDES investment will provide valuable evaluation knowledge that will strengthen this initiative and contribute to NSF's understanding of strategies for addressing the Nation's most challenging diversity and inclusion issues.

Goals

NSF INCLUDES investments target the following three strategies:

1. Broadening Participation (BP) in STEM Research: Synthesize and build the research base for broadening participation in STEM and foster the spread and adaptation of proven effective practices.
2. Shared Goals and Objectives: Support stakeholders as they identify shared goals and objectives, including those from specific STEM disciplines. The attainment of shared goals and objectives will be essential for success in achieving inclusion in high-quality, STEM learning opportunities, and in the Nation's scientific workforce.
3. NSF INCLUDES National Network: Support local and regional, discipline-specific, and crosscutting, multi-stakeholder partnerships and networks as part of the NSF INCLUDES National Network.

The NSF INCLUDES Big Idea rests on principles of collaborative change and the role of networks and organizational partnerships in enabling sustainable and scalable changes in systems and is based on the approach of collective impact and similar models for scaling and growth.³ Since the program was launched in FY 2016, NSF has funded 70 Design and Development Launch Pilots. In total, the NSF INCLUDES Launch Pilots are engaging 758 partnering organizations in the important work of BP in STEM using innovative collaborative change approaches. BP challenges addressed in the projects include, but are not limited to, providing STEM engagement for students and communities to promote interest in future careers in STEM, enhancing support systems for undergraduate and graduate students, and expanding access to quality STEM education. Leadership, data collection, expansion, and sustainability are also emphasized. Elements of ten Design and Development Launch Pilots have been incorporated into Alliances that were funded in FY 2018. The progress for the first two years of the program is summarized in the NSF INCLUDES Report to the Nation released in January 2018.⁴ A second report on the progress of the program will be published in December 2019.

NSF INCLUDES is guided by a detailed theory of change and includes principal investigator interviews and focus groups, NSF stakeholder interviews, technical assistance evaluation, and ongoing portfolio analysis. The first internal Annual Evaluation Report, released in 2018, featured efforts to build and measure collaborative infrastructure via a shared vision, partnerships and networks, common metrics, and communication needed to produce collaborative change. A Dear Colleague Letter, NSF 17-111, resulted in 14 EARly-concept Grants for Exploratory Research (EAGERS), conferences, and supplement awards in existing BP programs, thus providing on-ramps to the NSF INCLUDES portfolio. The NSF INCLUDES National Network added five NSF INCLUDES Alliances and one Coordination Hub in FY 2018. The Alliances focus on diversifying graduate education programs and STEM faculty, providing research experiences for rural first-generation college students, preparing community college students for advanced

² Kania, J., & Kramer, M. (Winter 2011). Collective impact. *Stanford Social Innovation Review*. Retrieved from: http://ssir.org/articles/entry/collective_impact. Kania and Kramer note that collective impact "requires a systematic approach to social impact that focuses on relationships between organizations and the progress toward shared objectives," p. 5.

³ Kania, J., & Kramer, M. (Winter 2011). Collective impact. *Stanford Social Innovation Review*. Retrieved from: http://ssir.org/articles/entry/collective_impact

⁴ www.nsf.gov/news/special_reports/nsfincludes/pdfs/INCLUDES_report_to_the_Nation.pdf

mathematics, and expanding the participation of underrepresented groups in computing fields. Additional NSF INCLUDES Alliances will be funded in both FY 2019 and FY 2020, and other funding mechanisms (e.g. supplements, pilot projects, planning grants, and starter networks) will be funded, serving as on-ramps to the NSF INCLUDES Alliances and National Network.

FY 2020 Investments

In FY 2020, NSF plans to invest \$20.0 million in NSF INCLUDES.

Goal 1: Broadening Participation in STEM Research

- NSF INCLUDES will continue to fund BP projects and related research through NSF INCLUDES Alliances and the existing NSF BP portfolio such as pilot projects, planning grants, and starter networks (e.g., research coordination networks) that serve as on-ramps to the NSF INCLUDES Alliances and the NSF INCLUDES National Network.
- NSF INCLUDES will support the dissemination and adaptation of proven strategies for expanding the use of innovative and collaborative BP practices in the NSF INCLUDES National Network and NSF's existing BP portfolio.

Goal 2: Shared Goals and Objectives

- NSF will provide ongoing funding to the NSF INCLUDES Coordination Hub, which was first funded in FY 2018, to oversee the implementation of a system of measurement, communication, and mutually reinforcing activities across the NSF INCLUDES National Network.
- NSF will support connections of existing NSF BP programs and other NSF-funded projects that support the NSF INCLUDES vision to the NSF INCLUDES National Network using existing funding mechanisms (e.g., supplements) or other innovative approaches to engage all NSF directorates and offices.
- NSF will develop a comprehensive evaluation, monitoring, and feedback framework for the NSF INCLUDES National Network, implemented in conjunction with the NSF INCLUDES Coordination Hub, which will include indicators and measures for tracking progress towards the achievement of the project goals of the NSF INCLUDES National Network.

Goal 3: NSF INCLUDES National Network

- NSF will fund NSF INCLUDES Alliances, which are five-year, center-scale projects committed to solving a specific set of objectives. NSF INCLUDES Alliances will leverage existing Design and Development Launch Pilots, programs, people, organizations, technologies and institutions to catalyze NSF's BP investments. FY 2020 funding will provide ongoing support to NSF INCLUDES Alliances funded in FY 2018 and FY 2019.
- NSF will regularly convene principal investigators of NSF INCLUDES Launch Pilots, Alliances, and the Coordination Hub to discuss BP challenges, proposed strategies, scaling mechanisms, and the feasibility of sustaining projects.