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Grow and Diversify the US STEM Workforce by Increasing Appropriations for the NSF Overall, and in Particular for the Directorate for STEM Education

The United States has long recognized math and science as critical to our national defense and economic security.

To maintain our leadership in a competitive global economy, we must be attentive to the STEM pipeline. We must give sufficient opportunities and support to—and thus capture the enormous talent of—the “missing millions” of students with STEM abilities. These missing millions includes those from historically underserved populations such as women, Black and African Americans, Hispanics and Latinos, low-income individuals, and those from our inner city and most rural areas.

“Talent is the treasure on which America’s [science and engineering] enterprise and the nation’s prosperity, health, and security depend.”

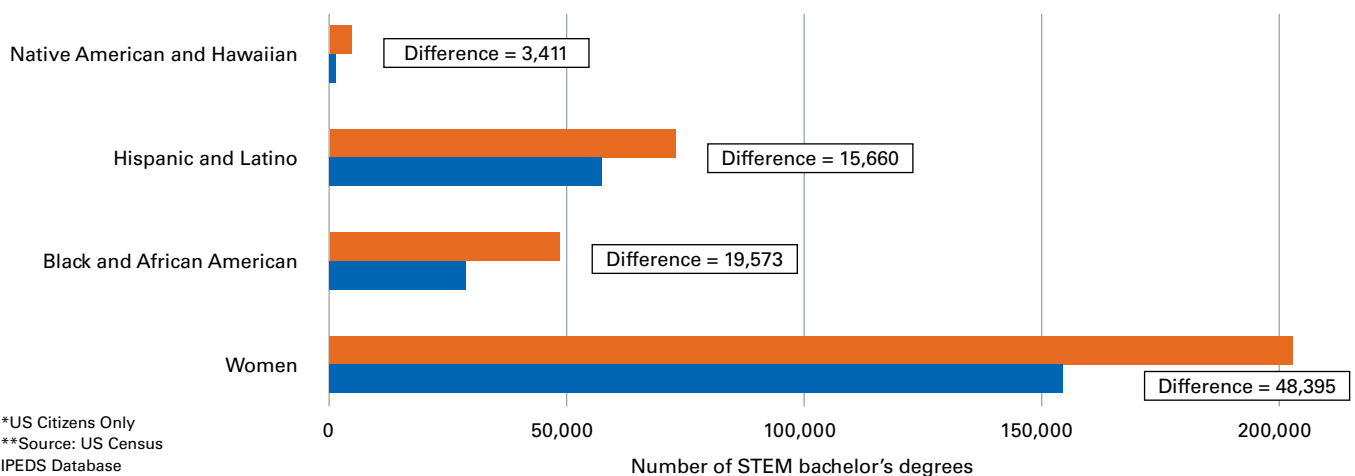
— Vision 2030, National Science Board, 2020

Due to its significant and impactful investment in developing human capacity, the National Science Foundation is our nation’s “talent agency.”

Strong appropriations for the Directorate for STEM Education at the National Science Foundation (NSF EDU) are key for building a STEM pipeline that will keep the US innovation ecosystem globally competitive.

2021–2022 Snapshot: Underrepresentation in STEM

- Number of STEM bachelor’s degrees awarded if the number were proportional to national demographics
- Number of STEM bachelor’s degrees awarded in 2021–2022



Opportunities in the mathematical sciences are foundational to all STEM fields. Ensuring that high-quality opportunities in the mathematical sciences are available to all will increase the talent pool across the STEM workforce and the number of national STEM advancements.

Strong appropriations for the NSF will ensure stability for mechanisms that support post-secondary students from historically underserved populations as they move through undergraduate-, graduate-, and postdoctoral-level STEM programs. Several NSF programs align with equity, diversity, and inclusion priorities in the mathematics community. We draw your attention to four.

- *Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science.* The NSF EDU INCLUDES program is a well-established funding mechanism that has increased the talent pool by increasing participation by a more diverse group of STEM professionals.
- *Scholarships in Science, Technology, Engineering, and Mathematics Program.* Another well-established program, NSF-S-STEM aims to “enable low-income students with academic ability, talent, or potential to pursue successful careers in promising STEM fields.” The program encourages participation from and collaboration among different types of institutions, including community colleges. Scholars must be domestic and studying fields identified as critical needs for the nation.
- *Partnerships for Research Innovation in the Mathematical Sciences.* PRIMES—a program launched in 2023 by the NSF’s Division of Mathematical Sciences (DMS)—aims to enhance diverse talent participation by supporting research capacity at Minority Serving Institutions (MSIs) by supporting individual MSI-based mathematicians’ involvement at the NSF Mathematical Sciences Research Institutes.
- *The National STEM Teacher Corps.* This program is authorized by the CHIPS and Science Act of 2022, but has not yet launched (page 149 of 394 of PL 117-167). Investing in great teachers to support future scientists is like investing in basic science to support future science, and both investments are essential to the future of scientific research. Many STEM teachers are isolated—including many rural teachers—and a Corps cohort can boost effectiveness of teaching, encourage innovation, and work to retain teachers. Supporting today’s great math and science teachers who can inspire all students across the nation is the key to creating tomorrow’s great mathematicians and scientists.

About the American Mathematical Society

Founded in 1888, the American Mathematical Society (AMS) is dedicated to advancing the interests of mathematical research and scholarship and connecting the diverse global mathematics community. The AMS has nearly 30,000 individual members worldwide and supports mathematical scientists at every career stage.

Office of Government Relations

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