

Target Audience K-12

Science, Technology, Engineering and Mathematics (STEM) Program

DOD - AFOSR

Target audience: K-12, undergraduates, graduate students

<https://www.grants.gov/search-results-detail/351854>

Deadline: 4/12/2024

Amount Upper: \$450,000 USD

Amount Note: Proposals may not exceed three (3) years in duration; that is, one (1) Base Year with two (2) Option Years. Proposals may not exceed \$150,000 in funding per year; that is, the sum of \$450,000 for all three years.

The Air Force Office of Scientific Research (AFOSR) seeks a broad range of applications for augmenting existing and/or developing innovative solutions that directly maintain and/or cultivate a diverse, world-class Science, Technology, Engineering and Mathematics (STEM) workforce to maintain the U.S. Air Force and Space Force's technological superiority. The goal of proposed efforts must provide solutions that establish, build, and/or maintain STEM educational pathways and workforce opportunities for diverse U.S. citizens directly relevant to AFOSR science and technology areas.

As the capacity of the Department of the Air Force (DAF) Science and Technology (S&T) workforce is interconnected with STEM education and outreach, AFOSR recognizes the need to support efforts that can jointly improve STEM student outcomes and align education and outreach efforts with DAF S&T current and future workforce needs. This announcement explicitly encourages projects that improve the capacity of education systems and communities to create impactful STEM educational experiences for students of all ages and the air and space related workforce. Projects must aim to increase engagement in STEM, from students to the current workforce, and enhance people with needed DAF STEM skills, knowledge and abilities. AFOSR encourages applications to utilize current STEM education research for informing project design and advancing STEM careers and opportunities of DAF relevance.

This FOA is specifically seeking STEM education and outreach projects that address scientific and technical areas identified in the following thrust areas. Project scope may range in size and complexity. While not a formal requirement or program focus of this FOA, applicants are strongly encouraged to consider under-represented and under-served populations including women and minorities in project plans. Special audience priority areas may include, but not be limited to, military connected students, veteran initiatives, and education systems integral to DAF science and technology.

AFOSR STEM topic areas include:

- Engineering and Complex Systems
- Information and Networks
- Physical Sciences
- Chemistry
- Biological Sciences

STEM interests include a broad range of STEM educational and training opportunities for career and workforce development, including but not limited to:

- Internships for veterans and underrepresented groups in STEM
- Professional development opportunities
- Programs to stimulate analytical/thinking skills
- Development of educational resources
- STEM education outreach activities
- Education and community engagement workshops
- Target age groups may require different levels of educational tools
- Coordinating and partnering with activities and organizations that support DAF research areas

Geoscience Opportunities for Leadership in Diversity (GOLD)

NSF

Apply to PD 21-178Y (see Program Page below)

Target audience: high school students, undergraduates, graduate students

Goal:

[Program Page](#)

Deadlines: April 26, 2024 (target date), fourth Friday in April, annually thereafter

October 25, 2024 (target date), fourth Friday in April, annually thereafter

GEO encourages projects that will develop efforts and training that focus on the creation of BAJEDI (Belonging Accessibility Justice Equity Diversity and Inclusion) leaders through scaling of model professional development (PD) programs, identifying barriers that exist within academia and/or the geosciences that prevent the development of diversity champions, and the employment of strategies that will create and sustain cohorts of diversity leaders to maximize collective impact in the geoscience ecosystem.

Examples of focus areas for PD centered proposals could include: 1) training in BAJEDI for graduate students and postdocs who will soon be on the job market, 2) creation of curriculum and standards for safe, equitable and inclusive education and research practices, 3) development of guidance that would assist geoscience academic and research units in developing or implementing BAJEDI plans, and 4) identification and fostering of practices related to the valuation of BAJEDI leaders and their activities in institutional promotion systems.

Geoscience Capacity Building at Minority Serving Institutions (MSIs). With the recognition that Minority Serving Institutions (MSIs) operate with intentionality and holistic support of students (NASEM 2019), GEO also welcomes proposals that envision new efforts to create educational or degree granting geoscience programs at MSIs or scale existing geoscience programs into graduate programs at MSIs with the following elements in mind:

- Consideration of the necessary steps to create or scale an educational or degree granting geoscience program through partnerships and collaborations, with an emphasis on [collaborative infrastructure](#) as defined under the NSF INCLUDES Program.
- Development of pilot bridge programs (high school to undergraduate, undergraduate to graduate and graduate to workforce) to grow the pool of potential geoscience program majors at MSIs and prepare them to be geoscience professionals.
- Identification and reduction of barriers (e.g., grants infrastructure or institutional policies) that may hinder the creation and sustainability of educational and degree granting geoscience programs at MSIs.
- Creation of a coordinating unit to assist in supporting or building grants management infrastructure at MSIs.

Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES)

NSF

Target audience: K-12, undergraduates, graduate students

Goal: training, research

https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf22622

Program page

Deadline: October 24, 2024, all components except Conferences

Network Connectors

Design and Development Launch Pilots

Collaborative Change Consortia

Conferences: May 14, 2024 full proposal target dates. Conference proposals may request up to \$100,000 for one year.

Amount Note: Estimated Number of Awards 10 to 15

NSF INCLUDES is a comprehensive, national initiative to enhance U.S. leadership in science, technology, engineering, and mathematics (STEM) discovery and innovation, focused on NSF's commitment to ensuring accessibility and inclusivity in STEM fields, as communicated in the NSF Strategic Plan for Fiscal Years (FY) 2022 - 2026. The vision of NSF INCLUDES is to catalyze the STEM enterprise to work collaboratively for inclusive change, resulting in a STEM workforce that reflects the diversity of the Nation's population. More specifically, NSF INCLUDES seeks to motivate and accelerate collaborative infrastructure building to advance equity and sustain systemic change to broaden participation in STEM fields at scale. Significant advancement in the inclusion of groups that have historically been excluded from or under-served in STEM will result in a new generation of STEM talent and leadership to secure the Nation's future and long-term economic competitiveness.

With this solicitation, NSF offers support for five types of projects that connect and contribute to the National Network: (1) Design and Development Launch Pilots, (2) Collaborative Change Consortia, (3) Alliances, (4) Network Connectors, and (5) Conferences. The NSF INCLUDES National Network is a multifaceted collaboration of agencies, organizations, and individuals working collectively to broaden participation in STEM. The NSF INCLUDES National Network serves as a testbed for designing, implementing, studying, refining, and scaling collaborative change models and is composed of:

- NSF INCLUDES funded projects
- Other NSF funded projects
- Subcommittee on Federal Coordination in STEM Education (FC-STEM) agencies
- Scholars engaged in broadening participation research and evaluation, and
- Organizations that support the development of talent from all sectors of society to build an inclusive STEM workforce.

All NSF INCLUDES funded projects must operationalize five design elements of collaborative infrastructure - (1) shared vision, (2) partnerships, (3) goals and metrics, (4) leadership and communication, and (5) expansion, sustainability, and scale - to create systemic change that will lead to the substantially broadened participation of individuals from historically excluded and undeserved groups in STEM.

Innovative Technology Experiences for Students and Teachers (ITEST)

NSF

Division of Research on Learning in Formal and Informal Settings (DRL)

Directorate for Education and Human Resources (EHR)

Target audience: K-12

Goal: training, research

https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf22585

Program page

Deadline: August 9, 2024

Amount Note: NSF anticipates having approximately \$25,000,000 to \$30,000,000 available for the FY23 competition and approximately \$25,000,000 to \$30,000,000 each year thereafter.

ITEST is an applied research and development program with goals to advance the equitable and inclusive integration of technology in the learning and teaching of science, technology, engineering, or mathematics (STEM) from pre-kindergarten through high school. The program's objective is to support all students's acquisition of the foundational preparation in STEM disciplines. Preparation for the current and future workforce is increasingly dependent upon the application and use of technology and computing.

Proposed ITEST projects are expected to (1) engage students in technology-rich learning to develop disciplinary and/or transdisciplinary STEM content knowledge, including skills in data literacy and evidence-based decision-making and reasoning; (2) prioritize the full inclusion of groups who have been underrepresented and/or underserved, including but not limited to Blacks and African Americans, Alaska Natives, Hispanics and Latinos, Native Americans, Native Hawaiians, Native Pacific Islanders, persons with disabilities, neurodiverse students, and women in the STEM and information and communication technologies (ICT) workforce; (3) motivate students to pursue appropriate education pathways to technology-rich careers; and (4) leverage strategic and community partnerships to expand education pathways in communities through public and private partnerships and collaborations.

ITEST supports three types of projects:

- (1) Exploring Theory and Design Principles (ETD);
- (2) Developing and Testing Innovations (DTI); and
- (3) Scaling, Expanding, and Iterating Innovations (SEI).

ITEST also supports Synthesis and Conference/Workshop proposals.

ITEST will support one 5-year resource center starting in FY23. All ITEST proposals must address how the proposed research and development project meets the ITEST program Pillars: 1) Innovative Use of Technologies in Learning and Teaching, 2) Partnerships for Career and Workforce Preparation, and 3) Strategies for Equity in STEM Education (Program Description, section A.).

All proposals must also include high-quality research design, a section describing how the project meets the Solicitation-Specific Review Criteria and plans for project evaluation and dissemination of findings (Program Description, section B: Requirements for Research Proposals.)

Racial Equity in STEM Education (EHR Racial Equity)

National Science Foundation (NSF)

Directorate for Education and Human Resources (EHR)

Target audience: K-12, undergraduates, graduate students

Goal: training, research

https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf22634

[Program page](#)

Deadlines: October 8, 2024; October 14, 2025

Note: Proposals due by 5 p.m. submitter's local time

Amount Note: **Estimated Number of Awards:** 15 to 35

Anticipated Funding Amount: \$15,000,000 to \$25,000,000

This solicitation aligns with the National Science Foundation (NSF) and the Directorate for Education and Human Resources (EHR) long-standing investments in the development of a diverse and well-prepared public and workforce, which was recently reinforced in the NSF Vision: A nation that leads the world in science and engineering research and innovation, to the benefit of all, without barriers to participation (p. 9, NSF 2022-2026 Strategic Plan (https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf22068)).

The NSF Strategic Plan focuses on ensuring that U.S. research is an inclusive enterprise that benefits from the talent of all sectors of American society – a research enterprise that incorporates the rich demographic and geographic diversity of the nation. The strategic plan recognizes that the more people who engage in science, technology, engineering, and mathematics (STEM) research and the more diverse their backgrounds, the richer the range of questions asked. The result is a greater breadth of discovery and more creative solutions to societal challenges.

Racial inequities often create barriers to STEM knowledge generation, as well as access to and participation in all aspects of STEM education, research, and the workforce. In ongoing efforts to address these disparities, NSF EHR seeks to support bold, groundbreaking, and potentially transformative projects that contribute to advancing racial equity in STEM education and workforce development through practice and/or fundamental or applied research. EHR's mission builds from the NSF Strategic Plan, seeking "to achieve excellence in U.S. science, technology, engineering and mathematics (STEM) education at all levels and in all settings (both formal and informal) in order to support the development of a diverse and well-prepared workforce of scientists, technicians, engineers, mathematicians and educators and a well-informed citizenry that have access to the ideas and tools of science and engineering. The purpose of these activities is to enhance the quality of life of all citizens and the health, prosperity, welfare and security of the nation."

Collectively, proposals funded by this solicitation will:

- (1) substantively contribute to institutionalizing effective research-based practices, policies, and outcomes in STEM environments for those who experience inequities caused by systemic racism and the broader community;
- (2) advance scholarship and promote racial equity in STEM in ways that expand the array of epistemologies, perspectives, ideas, theoretical and methodological approaches that NSF funds; and
- (3) further diversify project leadership (PIs and co-PIs) and institutions funded by NSF.