Oportunidades de Fondos Externos
Vicepresidencia de Recursos Externos
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LA MEJOR EDUCACIÓN A TU ALCANCE
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UPR external funding success is of utmost importance to strengthen the connection between its investigators/faculty and funding entities who have the potential to sponsor their research and academic endeavors. This publication has been developed in order to summarize funding opportunities and promote the participation of faculty and collaborative research groups in their intent to apply for external funds. Such efforts are aligned with the UPR Strategic Plan 2017-2022: A New Era of Innovation and Transformation for Student Success; Certification 50 (2016-2017) of the Governing Board, December 19, 2016. Strategic Area: Research and Creative Work. Goal 2: Increase Applications for and awards of external funds for research and creative work.

## SELECTED FUNDING OPPORTUNITIES

**This is a selection of identified funding opportunities for the period ending 05/12/2023 and is in no way all-inclusive of funding opportunities available. Further information has been shared with External Resource Coordinators and Research Coordinators at each UPR campus by e-mail.**

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## 1. Innovative Technology Experiences for Students and Teachers (ITEST), NSF

**Application Deadline: August 11, 2023**
**Estimated Range of Awards:**

- **Exploring Theory and Design Principles for Innovations (ETD): up to $500,000 for up to three years**
- **Developing and Testing Innovations (DTI): up to $1,300,000 for up to four years**
- **Scaling, Expanding, and Iterating Innovations (SEI): up to $3,500,000 for up to five years**
- **Syntheses: up to $400,000 for up to two years**
- **Conferences: up to $100,000 for one year**
- **Resource Center: up to $5,000,000 for up to five years**

The overarching vision of the ITEST program is to support applied research and development that provides pre-kindergarten to high school students with equitable and inclusive access to robust, rigorous, and effective learning opportunities using technology integral to a high-quality education in science, technology, engineering, and mathematics. Three core ITEST Pillars (Innovative Use of Technologies in Learning and Teaching, Partnerships for Career and Workforce Preparation, and Strategies for Equity in STEM Education) frame the opportunities for all students to acquire the foundational preparation in fields aligned with the technological and computational workforce, including students in underserved regions and Tribal Nations where access to technology and virtual learning remains a substantial challenge. Students emerging from their STEM education with proficiency in emerging technological and computational fields will find increasing career opportunities (Office of Occupational Statistics and Employment Projections, 2021).

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/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 Pillars**

- **Pillar 1. Innovative Use of Technologies in Learning and Teaching**
  ITEST requires that proposed activities engage students and/or informal learners in the use of technologies that will support acquisition of the foundational preparation in STEM and information and communication technologies.

  When responding to this Pillar, consideration should be given to how specific disciplinary concepts will be taught, such as how the proposed technology will be used to improve or deepen students' conceptual and disciplinary understanding, critical thinking skills, development of competencies in computing, computational thinking, data literacy, and evidence-based decision-making and reasoning. It is not sufficient for students to gain only experience in how to use technology. Students need to learn the creative ideas and STEM knowledge behind technology, such as the highly creative application of artificial intelligence used to solve scientific and social problems for the benefit of society or Quantum information science (QIS) as a new field of science and technology. When addressing more than one STEM discipline, as in transdisciplinary learning, discussion of the research on integrative teaching and learning processes is an important consideration.

- **Pillar 2. Partnerships for Career and Workforce Preparation**
  Core to this Pillar is the call for investigators to work with community stakeholders to identify and define opportunities for proposed research to support students' awareness and preparation for careers in the technological and computational workforce.

  Opportunities, such as entrepreneurship, apprenticeships, externships, internships, and mentoring can promote or support students' STEM engagement and interest in STEM/ICT careers. Community stakeholders may include,

but are not limited to, neighborhood or community groups, nonprofit or philanthropic organizations, businesses, libraries, museums, educational institutions, and other agencies.

The voices, knowledge, and experiences of individuals who have been underrepresented and/or underserved in STEM should be considered to play a key role at the center of strategic partnerships, collaborations, and career guidance to ensure that students have full and equitable opportunities to prepare for the future workforce. Such community-based strategies include, for example: project leadership, research positions, conceptualization of the partnership, decision-making processes, and interpretation and dissemination of evidence and research results.

- **Pillar 3. Strategies for Equity in STEM Education**
  "The goal of broadening participation is not only an issue of fairness and equal opportunity but is the means of bringing diversity and intellectual breadth to the transformation of science itself." (NSF GPRA Report 2009 and in CEOSE 2011-2012).

  The ITEST program seeks to advance NSF's vision of STEM inclusivity by leveraging diversity of intellectual and cultural perspectives to meet the goal of a fully inclusive and fully diverse STEM workforce. Ensuring equity and strengthening access and inclusion for the diverse groups of PreK-12 learners who are underrepresented and/or underserved in STEM fields is fundamental to broadening participation in the high-quality careers and high-paying jobs in the technological and computational STEM workforce. Exclusion from participation diminishes the nation's capacity for creative and innovative scientific discovery, including new technologies and advances in computing capacity that the U.S. depends upon for global economic competitiveness.

**Project Types**

- **Exploring Theory and Design Principles (ETD)** - describes and explores extant conditions and factors in the field intended to increase students' (and educators') STEM knowledge and motivation, participation, persistence, confidence, and resilience in STEM and ICT fields. ETD studies build core knowledge, interrelated theory, design principles and methods. Successful ETD proposals demonstrate strong potential to yield a preliminary theoretical framework, prototype or design principles, methods or features that increase STEM knowledge, and knowledge and interest in STEM and ICT careers among PreK- 12 students in formal and informal settings, particularly students from underserved and/or underrepresented populations. This project type is appropriate for projects in the conceptualization and planning phase with the goal of developing proof of concept.

- **Developing and Testing Innovations (DTI)** - draw on existing theory and evidence to design and iteratively develop interventions, including testing individual intervention components, to provide feedback in the development process. DTI proposals involve designing a theoretically driven innovation, pilot-testing or implementing the innovation and analyzing its outcomes. DTI studies focus on direct engagement with students and educators and assessment of student outcomes relevant to ITEST's primary goals of increasing student knowledge of, and interest in STEM and ICT careers as well as the development of STEM / ICT knowledge and skills required for pursuit of those careers. Results from DTI studies should inform the project's guiding theory of change and may lead to additional work to better understand the guiding theory. DTI projects may also indicate that the intervention is sufficiently promising to warrant large-scale testing, and expansion or iteration of innovations. DTI projects must be clear on the guiding theory of change, logic model, or other rationale for the relationship between its proposed activities and anticipated outcomes.

- **Scaling, Expanding, and Iterating Innovations (SEI)** - designed to build on and expand an existing innovation that has evidence of success (including DTI projects or similar innovations previously developed within or outside of the ITEST portfolio). SEI projects (a) broaden the implementation and research of an innovation at a significant scale of five to ten times greater than the original implementation. (b) extend an innovation to different student populations, regions of the country, grade levels or ages of students with varying skills, and educators' capacities in PreK-12 formal and informal settings; (c) examine issues of transferability and generalizability and the factors that support or inhibit scaling; and (d) assess cognitive and social-emotional student outcomes and measure student STEM knowledge and whether students continue to pursue further STEM and ICT education or

careers.

- **Synthesis Studies** - should focus on a question, issue, or topic of critical importance to the ITEST program's pillars. ITEST supports various types of syntheses including literature reviews, qualitative meta-syntheses, and meta-analyses focused on effective technology-based models, efforts to advance students' interest in or awareness of STEM and ICT careers in PreK-12 STEM learning environments, and measurement of cognitive and social-emotional student outcomes in relation to STEM learning and learning environments. Synthesis studies are expected to generate products usable by researchers and practitioners and indicate how the products serve the ITEST program goals. The goals, potential outcomes and dissemination plan for the proposed work should be emphasized. Synthesis proposals must demonstrate a command of the literature or topic to be addressed in both breadth and depth. They should also strive to present the current state of knowledge in the area of interest and highlight issues for future research. Synthesis proposals should explain and justify the methodological approach (e.g., meta-analysis or meta-synthesis), and should outline the systematic steps that will be taken regarding literature identification and decision points (e.g., identifying inclusion and exclusion criteria and outcome measures of interest).

- **Conference or Workshop Projects** - proposals in this category should address the need for the work, why it is timely, and the expected contributions to understanding or advancing the question, issue, or topic. Proposals must demonstrate command of the literature and the challenges and opportunities related to current practice of the topic selected. They must also describe the expertise and selection criteria of participants, include a conceptual framework, a draft agenda, the expected outcomes or products resulting from the conference or workshop activities. Finally, all conference/workshop proposals should discuss how these outcomes will be useful and disseminated to the research and practitioner communities and the broader public. Conference or workshop proposals may be submitted anytime during the year and reviewed accordingly. Proposers should contact a program officer prior to submission to discuss their ideas. For general guidance, follow the PAPPG guidance for preparing Conference Proposals (PAPPG II.E.9). The "Conference" type of proposal should be selected in Research.gov or Grants.gov.

- **Resource Center** - is expected to advance the goals of ITEST through (a) capacity building and technical support that facilitates ITEST projects' success and articulates innovative models for STEM learning environments; (b) synthesizing and disseminating ITEST projects' findings nationally to inform the national STEM education fields; and (c) conducting outreach to broaden participation from the ITEST and NSF communities, as well as from states, organizations, and higher education institutions not currently represented in the ITEST portfolio. Expectations for the Resource Center are outlined below.

**Link to Additional Information:** https://www.nsf.gov/pubs/2022/nsf22585/nsf22585.htm

## 2. Academic Research Enhancement Award for Undergraduate-Focused Institutions (R15 Clinical Trial Required), NIH

**Application Deadline: June 25, 2023; October 25, 2023**
**Anticipated Funding Amount: up to $300,000 in direct costs for the entire project period of up to 3 years**

This funding opportunity announcement aims to support AREA grants to undergraduate-focused institutions that do not receive substantial funding from the NIH, in order to provide biomedical research experiences for undergraduate students and enhance the research environment at these institutions. AREA funds are intended to support new, and renewal biomedical research projects proposed by faculty members of eligible institutions.

The three objectives of this FOA are to: (1) provide support for meritorious research at undergraduate-focused institutions or institutional components; (2) strengthen the research environment at these institutions/components; and (3) give undergraduate students an opportunity to gain significant biomedical research experience through active involvement in the research. For the purpose of this announcement, an undergraduate-focused institution/component is one in which the

undergraduate enrollment is greater than the graduate enrollment.

The AREA program will enable qualified scientists to receive support for small-scale research projects. It is anticipated that investigators supported under the AREA program will benefit from the opportunity to conduct independent research; that the grantee institution will benefit from a research environment strengthened through AREA grants; and that students at recipient institutions will benefit from exposure to and participation in scientific research in the biomedical sciences so that they consider careers in biomedical research. This AREA FOA emphasizes the engagement and inclusion of undergraduates in research.

The research project must involve undergraduate students, and the research team must be composed primarily of undergraduate students. Student involvement in research may include participation in the design of experiments and controls, collection and analysis of data, execution and troubleshooting of experiments, presenting at meetings, drafting journal articles, collaborative interactions, participation in lab meetings to discuss results and future experiments, etc. The AREA program is a research grant program, not a training or fellowship program, and, as such, applications should not include training plans such as didactic training or non-research activities relating to professional development. Inclusion and support of masters and doctoral candidates in these research projects are allowable but should be carefully considered. In all cases, the majority of students conducting research through the award must be undergraduates. Since diversity strengthens the research environment, AREA projects are encouraged to include students from diverse backgrounds, including those from groups underrepresented in the biomedical research workforce.

An AREA application submitted to this FOA may include other investigators, such as technicians, collaborators or consultants, or other individuals such as high school students, post baccalaureate participants, graduate students, or postdoctoral fellows. However, involvement of such individuals does not fulfill the goal to engage undergraduate students in eligible environments to research.

Participating Organizations:

- **National Institute on Drug Abuse (NIDA)** - supports innovative research addressing critical issues of neuroscience, genetics, behavior, prevention, treatment, epidemiology, etiology, health services, HIV/AIDS, and co-occurring opportunistic infections (e.g., viral hepatitis C, tuberculosis, sexually transmitted infections) associated consequences in substance using populations, medication development, or other research areas relevant to drug abuse.

- **National Eye Institute (NEI)** - supports basic and clinical research aimed at increasing our understanding of the eye, the visual system, and visual function in normal health and disease as well as the special problems and requirements of the blind.

- **National Institute on Aging (NIA)** - supports applications for research projects in areas within the Institute's mission that includes genetic, biological, behavior, social, and economic research on aging, plus Alzheimer’s Disease (AD) and AD Related Dementias (ADRD).

- **National Institute on Alcohol Abuse and Alcoholism (NIAAA)** - supports basic, translational, and clinical research on the causes, consequences, prevention, diagnosis, progression, and treatment of alcohol-related problems across the lifespan.

- **Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)** - supports biological, behavioral, and clinical research related to conception and pregnancy, normal and abnormal development in childhood, reproductive health, population dynamics across the lifespan, and rehabilitation medicine.

- **National Institute on Deafness and Other Communication Disorders (NIDCD)** - supports applications that propose research projects in the normal and disordered processes of hearing, balance, taste, smell, voice, speech, and language.

- **National Institute of Mental Health (NIMH)** - has a mission to transform the understanding and treatment of mental illnesses through basic and clinical research, paving the way for prevention, recovery, and cure.

- **National Institute of Neurological Disorders and Stroke (NINDS)** - seeks fundamental knowledge about the brain and nervous system and to use that knowledge to reduce the burden of neurological disease.

- **National Institute of Nursing Research (NINR)** - supports research that builds the scientific foundation for nursing practice and policy across clinical and community settings, and advances the prevention, detection, and management of disease and disability.

- **National Cancer Institute (NCI)** - considers meritorious R15 applications requesting support for cancer research-focused projects in cancer prevention, diagnosis, treatment, control, survivorship, and/or population sciences that involve prescribed studies of humans as subjects of research.

**Link to Additional Information:** https://grants.nih.gov/grants/guide/pa-files/PAR-21-154.html

## 3. Research and Evaluation Initiative, Dept. of Justice – Office of Violence Against Women

**Application Deadlines:**

- **Letter of Intent: June 1, 2023**
- **Grants.gov: June 29, 2023**
- **JustGrants: July 5, 2023**

**Anticipated Award Amounts: $450,000 for a period performance of 36 months**

The purpose of the Research and Evaluation (R&E) Initiative is to research and evaluate approaches to combatting domestic violence, dating violence, sexual assault, and stalking (hereafter referred to as "VAWA crimes"). By generating more knowledge about strategies for serving victims and holding offenders accountable, communities that benefit from VAWA funding will be better equipped to align their work with practices that are known to be effective, and they will be more capable of generating empirical knowledge on the efficacy of new and promising ways of doing things. The initiative is designed to support researcher-practitioner partnerships and a broad range of research and evaluation methods, including qualitative, mixed-method, quasi-experimental, and experimental designs. Because OVW has very limited funds to support research and evaluation, this initiative prioritizes topics for which a stronger evidence base would help OVW grantees use federal funds most effectively.

The OVW invites applications addressing the topics listed below:

1. **Evaluations of VAWA-funded interventions.** "VAWA-funded intervention" refers to any activity that is funded, or could potentially be funded, through OVW grant programs to address sexual assault, domestic/dating violence, and stalking. OVW is especially interested in studying the effectiveness of interventions that cut across multiple grant programs and align with one or more of OVW's office-wide goals and priorities.

2. **Evaluations of interventions related to new OVW grant programs.** The 2022 reauthorization of the Violence Against Women Act (VAWA 2022; Pub. L. No. 117-103) and the FY 2023 Appropriations Act (Pub. L. No. 117-328) established several new OVW programs that involve research and evaluation. OVW invites R&E applications that will build the evidence base for programming that these new programs can support. The new program areas for which OVW seeks pertinent R&E Initiative applications are:
    a. **Policing, prosecution, and trauma-informed criminal justice responses.** OVW's FY 2023 appropriations include funding for an initiative to promote effective policing and prosecution responses to domestic violence, dating violence, sexual assault, and stalking, including evaluation of the effectiveness of funded interventions. VAWA 2022 authorized, and the FY 2023 Consolidated Appropriations Act included funding for, the Abby Honold Act – Demonstration Program on Trauma-Informed, Victim-Centered Training for Law Enforcement. This new program supports grants to train law enforcement

officers and others to use evidence-based, trauma-informed approaches when investigating VAWA crimes. Applications for research under this subtopic must address how the Department of Justice's 2022 guidance, Improving Law Enforcement Response to Sexual Assault and Domestic Violence by Identifying and Preventing Gender Bias, will tie to the proposed research. Note that a separate funding announcement will address the statutory requirement under the Abby Honold Act that funded communities involve a local research partner; the purpose of inviting applications under the FY 2023 R&E Initiative is to better understand the features of "trauma informed, victim-centered training for law enforcement."

b. **LGBT-specific services, outreach, training, education, and prevention.** The LGBT Specific Services Program, authorized by VAWA 2022 and first funded by Congress in FY 2023, aims to maintain and replicate successful LGBT specific domestic violence, dating violence, sexual assault, and stalking community-based programs. It will provide grants to: support services addressing the needs of LGBT victims, education and prevention strategies, outreach activities, training for professionals, and programming for non-offending LGBT parents of children exposed to violence. OVW invites R&E applications to study such programs for the purpose of understanding if, how, and why a particular program or programs: 1) meet the needs of LGBT victims; 2) are effective at educating people about and preventing violence against LGBT people; and/or 3) better equip professionals to respond to LGBT victims of VAWA crimes.

c. **Restorative justice.** Note: VAWA 2022 provides an extensive set of parameters for how a restorative practices model must operate in order to be eligible for OVW funding to support such practices. R&E Initiative applicants may propose to study restorative practices that fall within or outside those parameters, as long as the restorative practices that are the subject of the R&E application specifically address domestic/dating violence or sexual assault. Applicants also may propose to examine the feasibility of programming that meets the VAWA 2022 definition of restorative practices.

3. **Research and evaluation on ways of ensuring language access in responses to VAWA crimes.** OVW invites R&E Initiative applications examining policies, practices, strategies, tools, technologies, etc. used to ensure that victims of VAWA crimes have meaningful language access to services and supports and can fully participate in justice proceedings.

4. **Evaluation of training curricula, tools, and other technical assistance (TA) resources developed and implemented with OVW grant funds.** Note: TA providers can be practitioner partners on R&E applications under this topic but should not apply to lead an evaluation of their own TA/training.

5. **Evaluations of emerging innovations** for serving victims of VAWA crimes and holding offenders accountable, such as:
    a. Flexible financial assistance or other ways of mitigating survivors' financial insecurity resulting from their victimization.
    b. Strategies for serving justice-involved, incarcerated, and/or formerly incarcerated survivors.
    c. Means of supporting survivors' recovery that are outside the mainstream, including but not limited to: art therapy, writing workshops, yoga, massage, animal-assisted interventions, self-defense/martial arts classes, somatic interventions, community engagement, and ways of healing that are rooted in cultural traditions.
    d. Approaches to addressing the safety, healing, and justice/legal needs of survivors whose lives intersect with the child welfare system (including protective parents whose children are removed from them, youth in foster care and youth aging out of foster care, including pregnant and parenting youth).
    e. Engaging culturally specific, community-based organizations and youth in prevention and response programming.
    f. Engaging community violence intervention programs in the prevention of, and response to, VAWA crimes.

6. **Secondary data analyses** related to domestic/dating violence, sexual assault, and/or stalking. Applicants

proposing studies under this topic may include multiple, distinct projects in one application.

7. **Research, evaluation, and data analysis related to domestic violence homicide prevention.** Applicants proposing projects under this area—which may fall under additional topics listed above—can address interventions designed to help prevent domestic violence homicides, as well as analysis of data related to domestic violence homicides and efforts to prevent them. OVW especially welcomes applications proposing qualitative data analysis that may shed light on homicide prevention efforts.

**Priority Areas**
In FY 2023, OVW is interested in supporting these priority areas:

1. Advance racial equity as an essential component of ending sexual assault, domestic violence, dating violence, and stalking.
2. Increase access to justice for all survivors of sexual assault, domestic violence, dating violence, and stalking, including through exploration of survivor-centered criminal justice system reform.
3. Strengthen efforts to prevent and end sexual assault, including victim services and civil and criminal justice responses.
4. Expand economic justice and financial advocacy for survivors of sexual assault, domestic violence, dating violence, and stalking, including as a tool for violence prevention.
5. Improve outreach, services, civil and criminal justice responses, prevention, and support for survivors of sexual assault, domestic violence, dating violence, and stalking from underserved communities, particularly LGBTQ and immigrant communities.

**Areas of Study**
OVW is interested in funding research and evaluation on the topics above that will contribute to knowledge in the six areas of study listed below.

1. **Justice**: Ways the justice system can effectively pursue and achieve justice in cases involving VAWA crimes, with justice broadly understood to include autonomy for victims, accountability for offenders, procedural fairness for all, and restorative justice
2. **Victims' needs:** How victimization and its aftermath affect people's lives, and what victims need to cope, heal, and achieve safety and justice.
3. **Cultures, disparities, and access:** Ways that cultural differences and social inequalities matter in terms of where and to whom people go for help, and whether people are able to access justice and get services that are useful to them.
4. **Impact**: Short- and long-term impact of the justice system's response, victim services, and other VAWA-funded interventions on victim safety and offender accountability.
5. **Indicators of success**: What success looks like and how to measure it—for victims pursuing safety and justice, for offenders being held accountable for their violence, and for people who work with victims and offenders.
6. **Reducing recidivism**: How to prevent violence from recurring.

**Link to Additional Information:** https://www.justice.gov/ovw/page/file/1582151/dl

## 4. Agriculture and Food Research Initiative Competitive Grants Program Education and Workforce Development, USDA/NIFA

**Application Deadlines: see programs below**
**Award Amounts: see programs below**

The purpose of AFRI (listed in the Assistance Listings under number 10.310) is to support research, education, and extension projects that address key problems of local, regional, national, and global importance in sustaining conventional, organic, urban food, and agricultural and natural systems. These include farm and ranch production efficiency, profitability, and sustainability; bioenergy and bio-based products; forestry; aquaculture; rural communities and entrepreneurship; human nutrition; mitigating impacts of biotic and abiotic constraints on food production; food

safety; mitigating food waste and food loss; physical and social sciences; rural human ecology; development of circular/regenerative economies, and genetic improvement of plant and animals. In addition, the economic sustainability of food systems is an overarching priority for the projects funded in response to this Request for Applications (RFA); therefore, projects focusing on plant or animal species or commodities that are important to underserved communities, farmers, ranchers, or small- or medium-sized farms or ranches are also encouraged. Through this support, AFRI advances knowledge in both fundamental and applied sciences important to agriculture. It also allows AFRI to support education and extension activities that deliver science-based knowledge to end users, allowing them to make informed, practical decisions. This AFRI Education and Workforce Development (EWD) RFA provides funding for research-only, education-only, extension-only, and/or integrated research, education, and/or extension projects addressing the six priorities.

Applications are solicited in the following six programs:

1. **Professional Development for Agricultural Literacy (PDAL)**
   Application Deadlines: September 14, 2023
   Award Amounts: $500,000 (including direct costs) for a duration of 36 – 48 months

   The PDAL program area priority seeks to increase the number of K-14 educational professionals trained in the food and agricultural sciences. Participants (teachers, post-baccalaureate preservice teachers, counselors, administrators) are expected to develop and apply skills necessary for integrating food and agricultural science concepts in their classes; explore the opportunities available in food and agricultural science career paths; and/or forge mentorships with professional and business leaders, and faculty at four-year institutions.

2. **Agricultural Workforce Training at Community Colleges (AWT)**
   Application Deadlines: September 21, 2023
   Award Amounts:
   - Design Project & Strengthening Standard Grants: $250,000 for a duration of 12 – 24 months
   - Implementation Project & Strengthening Standard Grants: $650,000 for a duration of 36 – 48 months

   The AWT program area priority seeks to develop a workforce ready for the field as well as industry jobs in the food and agricultural sector. Through the development of new workforce training programs, or the expansion, improvement, or renewal of existing workforce training programs at community, junior, and technical colleges/institutes, this program will expand job based experiential learning opportunities, acquisition of industry-accepted credentials and occupational competencies for students to enable a work-ready labor force for the 21st century. Proposals aimed towards developing baccalaureate or graduate degree programs or pathways towards these degrees are not supported under this program area priority.

   In order to strengthen the capacity of Community Colleges, the AWT program is offering two focus areas: Design and Implementation, with distinct requirements, goals, timelines, and budget maximums. Design projects seek to support faculty and staff to design and develop new credentialed workforce training programs that will train the workforce once the credential is recognized by the cognizant institution. Design projects do not support nor require student activities or training, but the standing up of training programs. On the other hand, Implementation projects seek to train students to acquire the skills and tools necessary to secure an industry-accepted credential and join the workforce. Implementations projects may update or expand existing workforce training programs, but these activities are restricted to the first year of the grant; the remaining project time must be allocated to student training. AWT applicants must design their proposal based on the focus area that best fits their project's goals, objectives, and timeline. Applicants need not have applied or received a Design or Implementation project grant to be eligible to apply or receive the other project type award.

3. **Food and Agricultural Non-Formal Education (FANE)**
   Application Deadlines: December 7, 2023
   Award Amounts: $750,000 may include but are not limited to support of participant stipends and travel; provider personnel salaries; software; and curricula

Major advances in agricultural productivity and rural prosperity in the past have resulted from transformative technologies such as breeding tools and strategies, mechanization, and prudent use of agrochemicals. There are several emerging technologies that hold a similar promise. This program area priority will support content development and activities for non-formal education to foster development of technology-savvy youth. Projects must develop activities that cultivate interest and competencies in STEM and in food and agricultural sciences supported by the six Farm Bill Priority areas of AFRI. Data science, including artificial intelligence, automation, and robotics as well as gene editing and biotechnology will be supported in this program area priority.

4. **Research and Extension Experiences for Undergraduates (REEU)**
   Application Deadlines: August 17, 2023
   Award Amounts: $600,000 for 48-month REEU projects; $750,000 for 60-month REEU projects

   The REEU program area priority promotes research and extension learning experiences for undergraduates such that upon graduation they may enter the agricultural workforce with exceptional skills. This initiative allows colleges and universities to provide opportunities for undergraduate students, including those from underrepresented and economically disadvantaged groups, minority-serving institutions, community colleges, and universities.

   Projects must provide undergraduate students with experiential learning opportunities that include significant research, extension, and/or education components in the food and agricultural sciences.

   Also, of interest are the projects that provide experiences in innovative agricultural technologies, including data science and artificial intelligence, robotics and automation, and gene editing. Additionally, NIFA supports nutrition security, which is defined as having consistent access, availability, and affordability of foods and beverages that promote well-being and prevent (and if needed, treat) disease, particularly among our nation's most socially disadvantaged populations. Promoting nutrition security is a critical ingredient to containing the COVID-19 pandemic, ensuring racial justice and equity, rebuilding the rural economy, addressing the impacts of climate change, providing open markets and fair trade, and reinvigorating a competitive workforce.

**Link to Additional Information:** https://www.nifa.usda.gov/grants/funding-opportunities/agriculture-food-research-initiative-education-workforce-development

## 5. Research Training Groups in the Mathematical Sciences (RTG), NSF

**Application Deadlines: August 08, 2023**
**Award Amounts: up to $500,000 per year for a duration of three to five years**

The long-range goal of the Research Training Groups in the Mathematical Sciences (RTG) program is to strengthen the nation's scientific competitiveness by increasing the number of well-prepared U.S. citizens, nationals, and permanent residents who pursue careers in the mathematical sciences, be they in academia, government, or industry. A significant part of this goal is to directly increase the proportion and the absolute number of U.S. students at the RTG sites who pursue graduate studies and complete advanced degrees in the mathematical sciences. It is anticipated that RTG projects also will serve as national models for research training in the mathematical sciences. Activities with potential impact beyond the directly supported students and beyond the institutions receiving RTG funds will be key strengths in proposals. Collaborative proposals involving different types of programs (for example, institutions in which the relevant department does not award Ph.D.'s, minority-serving institutions, etc.) and having the potential to develop innovative approaches to research training in the mathematical sciences are welcome. For such collaborative efforts, the lead institution must grant a doctoral degree in mathematical sciences.

The RTG program supports efforts to improve research training by involving undergraduate students, graduate students, postdoctoral associates, and faculty members in structured research groups anchored in a coherent research program. The activities need not be focused on a particular research problem; rather, it is expected that group participants will be united by common topical interests. The groups may include researchers and students from different departments and

institutions, but the research-based training and education activities must be based in the mathematical sciences. RTG projects are expected to vary in size, scope, and proposed activities, as well as in their plans for organization, participation, and operation. However, research groups supported by RTG will include vertically integrated activities that span the entire spectrum of educational levels from undergraduates through postdoctoral associates.

Addressing all stages (from undergraduate through postdoctoral) of trainee involvement is essential in RTG proposals. While emphasis on graduate training in RTG projects is appropriate and natural, a substantial plan for involving undergraduates is necessary. When used in reference to undergraduates, the word "research" should be given its broadest interpretation.

Successful proposals will include collaborating faculty with a history of research accomplishments. This group should have a history of working with students and/or postdoctoral associates, and they should present a strong plan for recruiting students who are U.S. citizens, nationals, or permanent residents into their program.

**Graduate Traineeships.** Graduate trainees form a pivotal component of the integration of activities in RTG grants. Their participation should result in:

- involvement with research activities that include undergraduates, other graduate students, postdoctoral associates, and/or faculty members.
- graduate education that is both broad and deep.
- significant teaching or other professional experience such as industry/laboratory internship.

**Undergraduate Experience**. In this program solicitation, the term "research experiences" for undergraduates includes all activities that involve undergraduates in discovery and generate appreciation of and excitement about research in the mathematical sciences. An undergraduate research experience does not have to result in the publication of a paper. Examples of research experiences include faculty-directed projects, either during the academic year or the summer, or participation in research teams with graduate students and/or postdoctoral associates. Such experiences are intended to involve students in the creative aspects of mathematical sciences in a non-classroom setting. They are also expected to enhance the development of students' communication skills, with particular emphasis on the presentation of mathematical concepts in both written and oral formats. In all cases, it is expected that the participating undergraduates receive mentoring to stimulate their further interest in the mathematical sciences.

**Postdoctoral Associates.** Effective RTG activities better prepare postdoctoral associates for their future careers. It is expected that at the end of the postdoctoral experience, each associate will have a well-defined independent research program, well-developed communication skills, a broad perspective of his or her field, and the ability to mentor.

**Link to Additional Information:** https://www.nsf.gov/pubs/2023/nsf23579/nsf23579.html

## 6. NIH Support for Conferences and Scientific Meetings (Parent R13 Clinical Trial Not Allowed), NIH

**Application Due Date: August 12, 2023; December 12, 2023**
**Award Budget: budgets are not limited but need to reflect the actual needs of the proposed project**

The purpose of the NIH Research Conference Grant (R13) is to support high quality scientific conferences that are relevant to the NIH's mission and to the public health. A conference is defined as a symposium, seminar, workshop, or any other organized and formal meeting, whether conducted face-to-face or via the internet, where individuals assemble (or meet virtually) for the primary purpose to exchange technical information and views or explore or clarify a defined subject, problem, or area of knowledge, whether or not a published report results from such meeting. The NIH recognizes the value to members of the research community and all other interested parties in supporting such forums.

NIH encourages conference grant applicants to enhance diversity by increasing the participation of individuals from diverse backgrounds, including those from underrepresented groups, in the planning and implementation, and ultimately, participation in the proposed conference. Applications for NIH support of conferences and scientific meetings must

include a plan to enhance diversity in all aspects of conference planning and implementation. Diversity plans will be assessed during the scientific and technical merit review of the application. Though the proposed plans will not be scored individually, they will be considered in the overall impact score.

NIH is also committed to changing the culture of science to end sexual harassment and other forms of harassment, including harassment on the basis of race, color, national origin, sex/gender, disability, and age in NIH-funded activities. Harassment, in any form, is detrimental and presents obstacles that hinder an individual's ability to fully participate in science. Only in safe, respectful, and inclusive environments can individuals achieve their fullest potential and support the mission of the NIH. As stated in NOT-OD-15-152, Civil Rights Protections in NIH-Supported Research, Programs, Conferences and Other Activities, consistent with existing federal civil rights laws, it is expected that organizers of NIH-supported conferences and scientific meetings take steps to maintain a safe and respectful environment for all attendees by providing an environment free from all forms of discrimination and harassment, sexual or otherwise. It is expected that organizers of NIH-supported conferences employ strategies that seek to prevent or mitigate the effects of discrimination and harassment, sexual and otherwise. Below are examples of strategies, which are not inclusive of all strategies, that could be employed to support a safe environment (conference organizers should consider additional strategies as appropriate):

- Establishing a conference code of conduct with clearly stated expectations of behavior, systems of reporting, and procedures for addressing inappropriate behavior. The code of conduct and reporting mechanisms should be clear and accessible to all meeting attendees.
- Providing resources to support individuals who report incidents of harassment, including:
    - personnel trained in advocacy and counseling
    - referrals to legal or health care resources
    - procedures for ensuring the safety of all conference attendees, up to and including removing a perpetrator from the conference
- Conducting conference climate surveys specifically related to sexual harassment and professional misconduct.

Additionally, all NIH sponsored and/or supported conferences must be held at accessible sites, as outlined by section 504 of the Rehabilitation Act of 1973 and, as applicable, the Americans with Disabilities Act of 1990. Conference registration materials should provide a questionnaire that will allow participants with disabilities to voluntarily identify any special needs, so that conference organizers can make plans to accommodate these needs.

Support of conferences is contingent on the fiscal and programmatic interests and priorities of the individual NIH Institutes and Centers (ICs). Therefore, a conference grant application is required to contain a permission-to-submit letter from any one of the participating ICs' conference grant contact person (see Contacts List). Applicants are urged to initiate contact well in advance of the chosen application due date and no later than 6 weeks before that date. Please note that agreement to accept an application does not guarantee funding. In general, NIH will not issue a conference grant award unless the Federal award date can precede the conference start date.

**Link to Additional Information:** https://grants.nih.gov/grants/guide/pa-files/PA-21-151.html

## 7. Media Projects, NEH

**Application Deadlines: August 9, 2023; January 10, 2024**
**Award Amounts:**

- **Development: up to $75,000 for six to twelve months**
- **Production: up to $700,000 (up to $1,000,000 for Chair's Special Awards) for one to three years**

The Media Projects program supports the development, production, and distribution of radio programs, podcasts, and documentary films that engage general audiences with humanities ideas in creative and appealing ways. Projects must be grounded in humanities scholarship and incorporate an approach that is thoughtful, balanced, and analytical; proposals must demonstrate the potential to attract a broad general audience.

The Division of Public Programs encourages media projects that promote a deeper understanding of American history and culture as well as those that examine international themes and subjects in the humanities.

**Film and television projects** may be stand-alone documentaries or a series of programs.
**Radio and podcast projects** may be single programs, a series, or segments within an ongoing program.

Projects may include supplementary components such as discussion programs or websites. All projects should be intended for national or regional distribution.

All Media Projects proposals must:

- build on sound humanities scholarship
- deepen public understanding of significant humanities questions
- approach a subject analytically, presenting a variety of perspectives
- involve humanities scholars in all phases of development and production
- involve appropriate media professionals
- employ appealing and accessible formats that will actively engage the general public in learning

Media Projects offers two levels of funding:

1. **Development awards** - enable media producers to collaborate with scholars to develop humanities content and other program elements. Awards must result in a script or detailed treatment(s). You may also use a Development award to plan for outreach and public engagement.

   Development awards may support activities such as:
   - meetings with scholars
   - preliminary interviews preparation of program treatments or scripts
   - production of a work-in-progress or trailer
   - creation of partnerships for outreach activities and public engagement
   - archival and other scholarly research to further development of script and humanities themes

2. **Production awards** - must result in the production and distribution of radio, podcast, television, and documentary film projects.

   Production awards may support activities such as:
   - archival research and rights clearances
   - meetings with scholars
   - additional script development
   - production (including filming, recording, and editing) and distribution
   - development of related resources that explore the humanities content and themes central to the project (e.g., websites and curriculum materials)
   - outreach and public engagement

- **Chair's Special Awards** - within the Production level. NEH will occasionally make Chair's Special Awards (up to $1,000,000) for projects of exceptional significance, audience reach, and complexity. A Chair's Special Award should examine important humanities ideas in new ways and demonstrate the potential to reach especially large audiences. These goals can often be accomplished by combining a variety of program formats, forming creative collaborations among diverse institutions, and significantly expanding the scope and reach of the project. Chair's Special Awards are rare; NEH typically awards no more than one per year.

**Link to Additional Information:** https://www.neh.gov/program/media-projects

## 8. Personnel Development To Improve Services and Results for Children With Disabilities—Personnel Preparation of Special Education, Early Intervention, and Related Services Personnel at Historically Black Colleges and Universities, Tribally Controlled Colleges and Universities, and Other Minority Serving Institutions, Dept. of Education

**Application Deadline: July 14, 2023**
**Estimated Range of Awards: $200,000–$250,000 per year for up to 60 months**

The purposes of this program are to (1) help address State-identified needs for personnel preparation in special education, early intervention, related services, and regular education to work with children, including infants, toddlers, and youth with disabilities; and (2) ensure that those personnel have the necessary skills and knowledge, derived from practices that have been determined through scientifically based research, to be successful in serving those children.

This competition includes one absolute priority and, within that absolute priority, one competitive preference priority.

- **Absolute Priority:** Personnel Preparation of Special Education, Early Intervention, and Related Services Personnel at Historically Black Colleges and Universities, Tribally Controlled Colleges and Universities, and other Minority Serving Institutions.

  The purpose of this priority is to prepare scholars who are fully credentialed to serve children, including infants, toddlers, and youth, with disabilities (children with disabilities). The Department is committed to promoting equity for children with disabilities in accessing educational resources and opportunities. The Department also places a high priority on increasing the number of personnel, including increasing personnel from racially and ethnically diverse backgrounds and personnel who are multilingual, who provide services to children with disabilities. To support these goals, under this absolute priority, the Department will fund projects that prepare special education, early intervention, and related services personnel at the bachelor's degree, certification, master's degree, educational specialist degree, or clinical doctoral degree levels to serve in a variety of settings, including natural environments (the home and community settings in which children with and without disabilities participate), early learning programs, child care, classrooms, schools, and distance learning.

  - **Priority**: The purpose of this priority is to prepare and increase the number of personnel, including personnel from racially and ethnically diverse backgrounds and personnel who are multilingual, who are fully credentialed to serve children with disabilities. Under this absolute priority, the Department will fund projects within HBCUs, TCCUs, and other MSIs that prepare scholars in special education, early intervention, and related services at the bachelor's degree, certification, master's degree, educational specialist degree, or clinical doctoral degree levels to serve in a variety of settings, including natural environments (the home and community settings in which children with and without disabilities participate), early learning programs, child care, classrooms, schools, and distance learning. This priority will provide support to help address identified needs for personnel, including personnel from racially and ethnically diverse backgrounds and personnel who are multilingual with the knowledge and skills to promote high expectations and provide effective evidence-based interventions and services that improve outcomes for children with disabilities, including children of color with disabilities and children with disabilities who are multilingual.

    *Note*: Projects may include individuals who are not funded as scholars, but are in degree programs (e.g., general education, early childhood education, administration) that are cooperating with the grantee's project. These individuals may participate in the coursework, assignments, field or clinical experiences, and other opportunities required of scholars' program of study (e.g., speaker series, monthly seminars) if doing so does not diminish the benefit for project-funded scholars (e.g., by reducing funds available for scholar support or limiting opportunities for scholars to participate in project activities).

    *Note*: Personnel preparation degree programs that prepare all scholars to be dually certified can qualify under this priority.

- **Focus Areas:** Within this absolute priority, the Secretary intends to support projects under the following two focus areas:
  A. *Preparing Personnel to Serve Infants, Toddlers, and Preschool-Age Children with Disabilities* - is for projects that prepare early intervention, special education, and related services personnel, including scholars from racially and ethnically diverse backgrounds and scholars who are multilingual, to provide services to infants, toddlers, and preschool children with disabilities.

  B. *Preparing Personnel to Serve School-Age Children with Disabilities* - is for projects that prepare special education and related services personnel, including personnel from racially and ethnically diverse backgrounds and personnel who are multilingual, to work with school-age children with disabilities.

  The proposed strategies may include activities such as:
  1) Updating coursework, course outcomes, scholar competencies, assignments, or extensive and coordinated field or clinical experiences needed to support preparation for special education, early intervention, or related services scholars, including scholars from racially and ethnically diverse backgrounds, scholars who are multilingual, and scholars with disabilities serving children with disabilities, including children of color with disabilities and children with disabilities who are multilingual.
  2) Building the capacity (e.g., hiring a field supervisor, providing professional development for faculty and field supervisors) of the program to prepare scholars, including scholars from racially and ethnically diverse backgrounds, scholars who are multilingual, and scholars with disabilities, to serve children with disabilities and their families, including children and families of color and who are multilingual.
  3) Purchasing needed resources (e.g., additional teaching supplies, technology-based resources, or other specialized equipment to enhance instruction).
  4) Establishing relationships with early intervention and early childhood programs or schools, to serve as sites for field or clinical experiences needed to support the project. These sites may include high-need local educational agencies (LEAs), high-poverty schools, schools identified for comprehensive support and improvement, and schools implementing a targeted support and improvement plan for children with disabilities; early childhood and early intervention programs located within the geographic boundaries of a high- need LEA; and early childhood and early intervention programs located within the geographical boundaries of an LEA serving the highest percentage of schools identified for comprehensive support and improvement or implementing targeted support and improvement plans in the State.

**Link to Additional Information:** https://www.govinfo.gov/content/pkg/FR-2023-04-19/pdf/2023-08249.pdf

## 9. IUSE: Innovation in Two-Year College STEM Education (ITYC), NSF

**Application Due Dates: December 13, 2023**
**Anticipated Award Amount: For both tracks, up to $500,000 for up to three years. Institutions that have not received NSF funding in the past 5 years are eligible for a maximum of $600,000 for up to four years.**

The ITYC program aims to support potentially transformative projects that will advance innovative evidence-based practices in undergraduate STEM education at two-year colleges that are in line with the program goals specified in the previous section. The program features two Tracks: (1) A Focus on the Academic Experiences of Two-Year College Students and (2) Leveraging Institutional Strengths and Innovation.

Within these two Tracks, ITYC projects may focus on developing innovative materials, practices, and partnerships at the frontier of STEM education, and/or projects that adapt and implement strategies that reflect upon proven or promising approaches from previous NSF projects or from other sources in the STEM education community. In either case, projects

must be in STEM fields, including emerging and converging STEM areas, that support the advancement of courses, pathways, or co-curricular activities for students enrolled as STEM majors and non-majors at two-year colleges. Projects are expected to leverage prior fundamental and/or applied research in STEM education and provide theoretical and empirical justification for all proposed activities. Projects that propose innovative approaches that are designed to address gaps in the research literature or educational practice or are based on ideas that have not been tried out in STEM education are encouraged.

The ITYC program recognizes that students at two-year colleges follow a variety of academic pathways that may result in certificates, degrees, direct entrance to the workforce, or transfer to four-year institutions in lieu of two-year college graduation. Successful ITYC proposals will therefore utilize or develop student-centered practices that embrace the numerous on-ramps, pathways and career pivots that shape the two-year college student experience. These proposals may include but are not limited to projects that seek to transform gateway STEM courses, develop and implement authentic research experiences, utilize effective mentorship models, connect STEM courses to the local community through experiential learning opportunities, leverage students' diverse backgrounds and experiences, and/or generate knowledge about factors associated with the impact of these advances in the context of two-year colleges.

Additionally, the ITYC program supports authentic partnerships that build an institution's capacity to support students by focusing on activities that may include but are not limited to faculty professional development, the establishment of communities of practice, development of innovative models for on- and off-ramps, and many other structural innovations that contribute to the goals of the ITYC program. Proposers are encouraged to use disaggregated institutional data to address the specific needs of their student population or to justify the proposed enhancements in student experiences and/or institutional capacity-building activities.

**Program Tracks**

- **Track 1: A Focus on the Academic Experiences of Two-Year College Students** - involve direct engagement with students at two-year colleges and focus on developing and/or adapting approaches to promote successful outcomes in STEM courses by placing students at the center of the effort. These projects hinge on the recognition that any student at a two-year college may sit at the intersection of many distinct identities that may not be adequately described by age or other traditional demographics alone. Student populations could include full and part-time students, students enrolled at multiple colleges, and students participating in dual enrollment and dual credit programs. The faculty, staff and administration of two-year colleges are invited to develop projects that recognize the potential within this unique population to optimize the student experience in STEM courses and pathways. Stipends for student time and engagement with project activities are encouraged.

  Examples of Track 1 projects include, but are not limited to, the transformation of introductory, developmental or laboratory courses for both STEM majors and non-majors. This may include development and/or implementation of active learning approaches, project-based experiences, contextualized STEM learning activities that provide relevance and connections to students' lived experiences, and school/work-life balance. Projects aimed at developing and/or implementing culturally responsive materials and pedagogical practices that effectively increase belonging, identity, participation, and success in these same introductory courses are particularly encouraged. Projects that focus on students in these courses should consider the prior experiences and assets of their student population, and the metrics institutions will be used to measure progress.

- **Track 2: Leveraging Institutional Strengths and Innovation** - intended to foster single department, multi-department, or college-wide projects to accelerate innovation and build appropriate capacity in the targeted unit to enable innovation in STEM education at two-year colleges. Track 2 projects should promote student success and increase participation in STEM through novel approaches or through existing practices already known to positively impact student participation and retention outcomes. Track 2 projects may achieve this by leveraging institutional strengths or by fostering partnerships with external stakeholders that expand departmental and/or institutional capacity and impact student success.

  Examples of Track 2 projects include, but are not limited to, professional development of faculty, staff, and

administrators, expanding the roles of teaching and learning centers, or establishing a community of practice within or among institutions. Professional development for two-year college faculty, for example, may focus on building expertise in a wide range of emerging practices such as implementing equity-oriented STEM education approaches, creating novel mechanisms to identify talent and recruit students into STEM programs, or enhancing capacity to conduct STEM education research. In particular, proposals that aim to develop innovative strategies that effectively engage part-time faculty in these professional development activities are supported and encouraged.

**Research and Practice:** The ITYC program welcomes proposals to both Track 1 and Track 2 that generate new knowledge as part of a research study about factors associated with the success of students who are pursuing their education at two-year institutions. If included, the proposed studies must address problems of practical significance, be informed by the research literature, driven by well-focused research question(s), aligned with research methods including justification, and be designed to bridge the gap between research and practice11. The program accepts a wide range of methodological approaches that are aligned with the research questions and are appropriate for answering them. Research and Practice Proposals can be submitted under either Track 1 or Track 2 based on alignment of the proposal with the selected track.

**Partnerships and Collaborations:** Mutually beneficial partnerships or collaborations within and across institution types are supported in both Track 1 and Track 2. For example, a collaboration across STEM disciplines within the proposing institution or a partnership among several two-year colleges implementing similar interventions could strengthen the ability of these departments and/or institutions to share resources and expertise and could increase the amount of new knowledge produced. Partnerships with 4-year colleges and universities could create clear transfer pathways for two-year college students that would not otherwise exist or could leverage additional expertise and resources. Collaborations with work-place partners could extend STEM pathways directly to career opportunities. Please see the PAPPG Chapter II.D.3 for additional guidance on preparing collaborative proposals. In all collaborative proposals to Track 1 and Track 2, two-year colleges must be the lead institution. Other types of institutions may serve as collaborators as necessary for the success of the project. All collaborative proposals will require a robust management plan that describes the role of contributors in leadership positions from each institution.

**Link to Additional Information:** https://www.nsf.gov/pubs/2023/nsf23584/nsf23584.htm

## 10. BioFoundries to Enable Access to Infrastructure and Resources for Advancing Modern Biology and Biotechnology (BioFoundries), NSF

**Application Deadlines:**

- **Letter of Intent: August 01, 2023**
- **Full Proposal: October 02, 2023**

**Anticipated Award Amounts: $15,000,000 to $24,000,000 over a six-year period**

The goal of this solicitation is to support the establishment of BioFoundries that focus on the innovation pipeline and research, while ensuring broad access to the research resources, training, education, and outreach to catalyze our understanding of biological or bio-engineered systems and to support the design-build-test-learn pipeline for rapid translation of basic discoveries into applications. The research must aim to integrate advances in modern biology, chemical biology, biotechnology, and related fields with innovations in automation, high-end measurement infrastructure, nanotechnology, micro-fabrication, integrated testing and data acquisition, and AI-enabled analysis and automation of the scientific discovery process. The user-facing activities of the BioFoundry must ensure that these advances are accessible to the widest possible scientific community. A desirable outcome of the BioFoundry is to establish the standardization of instrumentation, data, and scientific practices that will make possible the integration of data from multiple sources/databases and allow the construction of data analysis pipelines using heterogeneous software data analysis and AI tools that communicate through standard data structures. Ultimately the BioFoundries should aspire to support open collaborations among scientists.

BioFoundries are expected to include mechanisms and resources to ensure reproducibility of results and the ability to

share data in both human- and machine-usable formats. BioFoundries should address the issue of reproducibility through verifiable algorithmic approaches to build trust and confidence of the research as well as user community and by providing repositories of data, tools, and algorithms that would allow outside groups to reproduce the scientific results obtained.

The research supported by BioFoundries may follow from the work supported by previous or existing NSF programs, or it could represent an entirely new direction. A key feature of the BioFoundries should be the deep integration of advanced discovery, technological innovation, knowledge sharing, and collaborations to open new avenues for translating results from basic research to societally beneficial outcomes. Additional information on the research and technology components of BioFoundries can be found in the Proposal Preparation section of this solicitation.

BioFoundries are envisioned to combine characteristics of user facilities and research centers in a scientific ecosystem that includes:

- A user facility that provides strategic technical capacity and infrastructure, resources, samples, workflows, and data, in a manner that is open and responsive to a diverse community of external researchers at various institutions and that fosters the creation of standards for the above.
- Multidisciplinary research teams and technology development teams that conduct in-house research on a focused topic central to the BioFoundry theme, while simultaneously pushing the technical state of the art to develop next-generation instrumentation, experimental and computational methods, standardization and validation processes, workflows and automations, and advancing the capabilities of existing tools in concert with the in-house research teams and the external user community. Such research and technology development may span any aspect of biological and biotechnology domains supported by the NSF.
- Programs for training the next generation of researchers.
- Activities that permit the BioFoundries to serve as nexus points for academic/industry collaborations and partnerships to enable pathways to translation.

NSF is committed to the inclusion of all people and institutions in the research enterprise. To be competitive, proposers should leverage the full spectrum of diverse talent that the society has to offer.. NSF urges proposers to engage institutions across diverse geographies and types in meaningful and substantive partnerships to ensure that the cohorts of users and trainees involved in this program are broad, diverse, and inclusive, reflective of the Nation's demography and geography. The program recognizes that in the specific areas of entrepreneurship and technology transfer, several groups are underrepresented and/or under-served. The challenges and barriers for these communities may include limited network access to critical decision-makers, lack of funding, academic incentives, conscious and unconscious bias, and limited availability of mentors. Therefore, one component of building a diverse and inclusive cohort is to ensure that the leadership and management of the project includes robust participation of individuals from groups who have remained underrepresented and/or under-served in their involvement in such endeavors. Proposals must clearly articulate specific steps, both in the short and long term, that will be undertaken to demonstrate the principles of diversity and equity along with commitments to inclusiveness and accessibility.

**Link to Additional Information:** https://www.nsf.gov/pubs/2023/nsf23585/nsf23585.htm

## 11. HEAL Initiative Partnerships to Advance INterdisciplinary (PAIN) Training in Clinical Pain Research: The HEAL PAIN Cohort Program (T90/R90 Independent Clinical Trial Not Allowed), NIH

**Application Deadlines:**

- **Letter of Intent: August 11, 2023**
- **Full Proposals: September 27, 2023**

**Award Amounts: budgets are not limited, but need to reflect the actual needs of the proposed project**

The overall goal of the NIH Ruth L. Kirschstein National Research Service Award (NRSA) program is to help ensure that a diverse pool of highly trained scientists is available in appropriate scientific disciplines to address the Nation's

biomedical, behavioral, and clinical research needs. In order to accomplish this goal, NRSA training programs are designed to train individuals to conduct research and to prepare for research careers. More information about NRSA programs may be found at the Ruth L. Kirschstein National Research Service Award (NRSA) website.

**Funding Opportunity Description CT Required Optional**
This Notice of Funding Opportunity (NOFO) does not allow appointed Trainees to lead an independent clinical trial, but does allow them to obtain research experience in a clinical trial led by a mentor or co-mentor. NIH strongly supports training towards a career in clinically relevant research and so gaining experience in clinical trials under the guidance of a mentor or co-mentor is encouraged.

The NIH HEAL Initiative® has invested significant resources in research programs aimed at identifying effective, non-opioid approaches for pain management. To best leverage these investments, a large pool of highly-trained scientists, with diverse trainings and experiences, is needed. The NIH recognizes, however, that there is an early-stage clinical pain management workforce pipeline shortage which could affect the long-term goal of providing effective non-opioid options for the treatment of acute and chronic pain. The Interagency Pain Research Coordinating Committee (IPRCC) has identified barriers to growth in the clinical pain research workforce, noting a limited pipeline of early career clinical pain researchers, challenges entering the field, and a high departure rate of senior investigators and mentors from the field. The IPRCC also identified a need for early-stage researchers to receive structured research opportunities from experienced investigators within or outside of their home institutions to broaden mentorship foci.

HEAL has funded clinical pain workforce enhancement programs to provide time for mid-career and senior investigators to mentor early career trainees and support early career investigators who have not previously received NIH funding. There remains a need however, to establish a strong base of earlier stage postdoctoral fellows who would be eligible to apply to these programs and other HEAL grants in the future. Building system capacity among the clinical pain research workforce is crucial to future scientific advances in this area and to achieve HEAL's programmatic goals.

To this end, the NIH HEAL Initiative® – in partnership with stakeholders – has identified several research priority areas that represent significant knowledge gaps in pain research (e.g., advancing health equity in the field of pain, bioinformatics, chronic overlapping pain conditions, and effective interventions for pain and co-morbidities). Mentorship and training opportunities within these research priority areas will ensure that future generations of scientists are prepared to address HEAL's programmatic goals. In addition, the pain management community has called for both broader adaptation of the biopsychosocial model in pain research and perspectives from fields that have not traditionally been involved in pain research. Broadening current training will expand scientific rigor and spark innovative solutions to clinical pain management. Examples of fields that have not traditionally been involved in pain science include engineering, social sciences, epidemiology, anthropology, biostatistics, computer sciences, demography, bioengineering, addiction medicine, public health, and mental health/behavioral health.

**HEAL PAIN Cohort Program Description**
This NOFO seeks applications to establish a cohort of up to four T90/R90 institutional postdoctoral training programs across various institutions as part of this NIH HEAL Partnerships to Advance INterdisciplinary Training for Clinical Pain Research (the HEAL PAIN Cohort Program). The NIH T90/R90 mechanism is a Kirschstein-NRSA institutional training program designed to support interdisciplinary research. This program is responsive to the IPRCC and needs assessment survey by providing protected research time and formal research training opportunities to clinical pain researchers at an early stage of their careers while broadening the foci of research mentorship. Since the goal is to increase the clinical pain research workforce, the T90/R90 Trainees/Participants must be in a clinical program or demonstrate an interest in clinical pain research. Investment at an early career stage aligns with the NIH HEAL Initiative's® goals by facilitating the retention of junior investigators in clinical pain research. Because limited opportunities exist for postdoctoral training in clinical pain research, the HEAL PAIN Cohort Program will play a critical role in meeting this programmatic goal.

The HEAL PAIN Cohort Program will promote retention in the clinical pain workforce by providing cohort experience among T90/R90 program Trainees/Participants. A cohort refers here to a group of trainees/participants that enter together and remain together throughout the program's duration. Other NIH Initiatives have used a cohort model citing evidence

that it fosters a supportive group of talented peers and provides institutional support, ultimately enhancing the success of adult learners and promoting diversity and retention among candidates. The cohort model will be enhanced through the existing NOFO, RFA-NS-22-060, HEAL R24 Coordinating Center for National Pain Scientists (https://grants.nih.gov/grants/guide/rfa-files/RFA-NS-22-060.html; https://painresearchers.com/), which will provide high-quality training through webinars, networking opportunities, and other events tailored to the T90/R90 programs. However, each T90/R90 program will also be responsible for offering training opportunities to their Trainees/Participants locally at their institution.

**HEAL PAIN Cohort Program Objective**
The goal of the HEAL PAIN Cohort Program is to expand and enhance the pool of early career stage investigators (either those who have participated in a clinical program or who demonstrate an interest in clinical pain research) who are sufficiently prepared and trained to launch and maintain successful careers addressing the nation's scientific needs in clinical pain research. In addition to providing protected research time and dedicated training, the program's unique cohort approach aims to increase retention of these early career stage investigators in the clinical pain research workforce. The cohort experience also will provide networking opportunities to build partnerships between investigators in fields that are both traditionally and not traditionally represented in the field of pain, with the goal of leading to future scientific collaborations. Finally, the focus on broadening training foci to include fields outside of those traditionally represented in the field of pain – as well as recruiting prospective Training PD/PIs, mentors, and Trainees/Participants from diverse backgrounds – are expected to promote innovative solutions for pain management.

**Link to Additional Information:** https://grants.nih.gov/grants/guide/rfa-files/RFA-NS-24-015.html

## 12. Next Generation Multipurpose Prevention Technologies (NGM) (R01 Clinical Trial Optional), NIH

**Application Deadlines: December 7, 2023**
**Award Amounts: budgets are not limited but need to reflect the actual needs of the proposed project**

The objective of this NOFO is to support continued development of new and innovative on-demand, event-driven, and long-acting (systemic and non-systemic) Multipurpose Prevention Technologies (MPTs) for the purposes of pregnancy and STI or HIV prevention and prevention of multiple non-HIV STI or HIV/STI MPTs in cis and trans males and females of all ages, as appropriate. Of specific interest to general MPT development are efforts focused on specific sub-populations where MPTs may have a particular benefit such as, adolescent girls, women and men in sero-discordant partnerships, men who have sex with men (MSM), individuals who practice receptive anal intercourse (RAI) or engage in high-risk sexual encounters that place them at high risk for STIs or HIV, health disparity populations that are disproportionately infected by HIV or other STIs, and individuals who may desire the convenience of a multi-component prevention strategy.

MPTs are composed of a combination of drugs that can target prevention of pregnancy, STIs (e.g. Gonorrhea, Syphilis Chlamydia, Trichomonas vaginalis, Human Papilloma Virus (HPV), Herpes Virus (HSV), etc.) and/or HIV, delivered using either an on-demand and event-driven or long-acting drug delivery system (DDS) with rheological/biophysical properties and product user perceptions (look, feel, effectiveness, safety and duration of action) that support user uptake (first use, subsequent use and habitual use). The hypothetical power of the MPT concept is that by combining prevention products for pregnancy and HIV or STI, the MPT may have a greater uptake and adherence than individual products. Key to the concept of MPTs is creation of DDS to support convenience of use, that not only are safe and deliver the drugs consistently but have durations of action relevant to the user needs. MPTs (contraceptive and non-contraceptive) may encompass a wide range of delivery durations and use patterns from on demand, event-driven or sustained/extended-release durations (months to years).

MPTs in general represent an unmet need for both cis and trans males and females. The first generation of contraceptive/HIV MPTs using a drug development strategy focused on adapting the contraceptive hormone Levonorgestrel (LNG) to intravaginal rings (IVR) containing Tenofovir or Dapivirine are undergoing initial clinical testing, whereas development of HIV/STI, contraceptive/STI and non-HIV STI MPTs are in preclinical development. Creation of MPTs with a range of STI prevention, contraception and anti-HIV drug choices that are convenient and retain

the efficacy/safety of single component drugs will be a critical factor in getting individuals to choose an MPT, since it is unlikely that reduced efficacy and/or convenience will entice substitution of an MPT for a more familiar and/or trusted single drug treatment/prevention regimen. Thus, close attention to pharmacokinetics (PK)/ pharmacodynamics (PD) of the constituents of the MPT and biophysical properties of the DDS, as they pertain to user preferences and needs, are essential components required for creating new, effective strategiesthat are purpose designed to meet the needs of at-risk individuals and those desirous of a multi-component prevention strategy.

**Specific Areas of Research Interest**

Applicants are encouraged to consider specifying clinical and nonclinical research milestones and timelines for their proposed research. Inclusion of biobehavioral research, integrated into an MPT drug development program, focused on optimizing the rheological and biophysical properties of the product for use by target populations is encouraged. Applications may address one or more of the following topics:

- NIAID
    - Development of episodic dosed (e.g., on-demand or event-driven) MPTs for use during periods of sexual activity with a minimum of 7days protection from a single dose for MPTs targeting HIV and STIs for cis and trans males and females.
    - Development of next generation sustained/extended release MPTs (e.g., microarray patches, biodegradable implants) that provide months to years of protection from HIV and/or STI infection and pregnancy in women using a single dose or a constant delivery DDS, which may be modeled after the highly effective long-acting reversible contraceptive (LARC) strategies for durations and use patterns.
    - Development of animal models (single model or separate harmonized animal models) that evaluate the efficacy and safety for the active ingredients of a multiple indication MPT product.
    - Understanding the potential for and identifying/characterizing DDI that could compromise MPT safety and effectiveness.
    - Understanding the PK and PD of MPT products by mapping the antiviral, STI(s) and/or contraceptive duration, lag period (time to establish effective concentrations) and tails (time to loss of effective concentrations) during non-use periods such as menstruation or between dose renewals for episodic and sustained/extended release MPTs.
    - Development of contraceptive and non-contraceptive MPTs that deliver effective HIV drug concentrations to both the female reproductive tract (FRT) and the gastrointestinal (GI) tract of males and females.
    - Understanding the biobehavioral factors which govern decisions made by individuals to use MPTs (look, feel and duration). For this NOFO, biobehavioral factors are defined as the rheological/biophysical properties of the MPT DDS that invoke user judgments, leading to decisions for first, subsequent use or non-use and/or early termination.

- NIMH - Studies that include an HIV prevention component.
    - Studies that integrate a meaningful behavioral component addressing preferred user characteristics into the product development plan.
    - Studies to understand which products and delivery systems are preferred by whom.
    - Studies to understand how partner and situational/contextual factors influence product preferences.
    - Research designed to inform the development of MPT products by investigating relevant healthcare system delivery factors regarding dosing schedules and administration routes.
    - Research to identify product attributes and other behavioral, social, and healthcare system determinants that may affect consumer adherence to MPT products.
    - Studies examining whether MPT formulations may improve product adherence and persistence relative to products that prevent only HIV.
    - Studies that model the cost-effectiveness of MPT products.

- NICHD - interested in efforts targeting infants, children, adolescents and young adults and/or pregnant women.
    - Development of MPT formulations, systemic and non-systemic, for HIV, STIs and/or pregnancy prevention in formulations and/or drug platforms that are appropriate for administration to adolescent and young

adults, particularly formulations that do not require a cold chain, are not liquids with solid and are palatable (e.g., incorporating effective taste masking technologies)
    - Evaluation of STI/STI and STI/HIV MPT formulations in pregnant animals, including toxicity studies for mother/fetus as well as assessments for teratogenicity.
    - Studies involving the investigation of pharmacologic properties of proposed formulations in animal models to understand the interaction of the formulation with endocrine, physiologic and other biochemical changes experienced among, adolescent and young adult populations (e.g., effects on reproductive organs, growth, changes in volume of distribution [e.g., due to potential portioning infant], hormonal effects, potential for unique toxicities [e.g., bone, CNS]).
    - Studies to evaluate key pharmacologic interactions of MPT formulations with agents commonly used by and behaviors typically practiced among adolescent and young adult populations (e.g., contraceptives, alcohol, smoking, illicit substances, erratic eating behaviors).

- NICHD's Contraception Research Branch (CRB) - interested in the development of new and improved methods of contraception, including multipurpose prevention technologies which include a contraceptive component.
    - Development of novel non-hormonal MPTs and MPT delivery systems, either on-demand and event-driven or sustained release, in men or women with pregnancy prevention and HIV and/or STI properties.
    - Development of on-demand and event-driven dosed MPTs for use during periods of sexual activity with a minimum of 2 days protection from a single dose for MPTs targeting pregnancy prevention and HIV and/or STIs for men and women.
    - Development of sustained/extended release MPTs that provide months to years of protection from pregnancy and HIV and/or STI in women using a single dose or a constant delivery DDS.
    - Understanding the PK and PD of MPT products by mapping the contraceptive, antiviral and/or STI duration, lag period (time to establish effective concentrations) and tails (time to loss of effective concentrations) during non-use periods such as menstruation or between dose renewals for on-demand and event-driven and sustained/extended release MPTs.
    - Understanding the potential for and identifying/characterizing DDI that could compromise pregnancy prevention and HIV and/or STIMPT safety and effectiveness.

**Link to Additional Information:** https://grants.nih.gov/grants/guide/pa-files/PAR-23-180.html

## 13. Public Humanities Projects, NEH

**Application Deadlines:**

- **Optional Draft: July 5, 2023**
- **Full Proposal: August 9, 2023**

**Award Amounts:**

- **Planning: up to $75,000 for up to 24 months**
- **Implementation: $50,000 to $400,000 for 12 to 48 months**
    - **Chair's Special Awards: up to $1,000,000**

This program supports projects that bring the ideas and insights of the humanities to life for general audiences through in-person exhibitions and historic site interpretations, as well as in person, hybrid, or virtual discussions and other scholar- or staff-led programs. Projects must engage humanities scholarship to analyze significant themes in disciplines such as history, literature, ethics, and art history. Public Humanities Projects supports projects in three program categories and at two funding levels.

Public Humanities Projects awards support projects aimed at reaching broad and diverse public audiences in non-classroom settings in the United States. Projects should engage with humanities ideas and present analysis in formats designed to engage a wide range of audiences.

Project topics may be international, national, regional, or local in focus. Locally focused projects should address topics

that are of regional or national relevance by drawing connections to broad themes or historical questions. Projects that do not address issues of concern to wider regional or national audiences might consider local sources of funding, such as state humanities councils. NEH will offer award amounts to successful applicants based on the project's scope and the expected audience size.

NEH encourages applications from small and mid-sized organizations. NEH likewise welcomes humanities projects tailored to specific groups, such as families, youth (including K-12 students in informal educational settings), underserved communities, and veterans.

Public Humanities Projects must:

- be grounded in sound humanities scholarship
- analyze the underlying themes and ideas to deepen public understanding of the humanities
- involve humanities scholars from outside the applicant organization and involve them in all phases of the project
- attract a broad public audience or target a particular underserved group
- offer engaging content approached through an appropriate variety of perspectives
- encourage dialogue and the exchange of ideas

Awards may support activities such as:

- meetings with humanities scholars and other content advisers, program partners, audience representatives, and consultants (e.g., education and public program specialists; historic site, interpretive, or cultural tourism experts; writers; media producers; or digital designers)
- research including travel to archives, collections, sites, or other resources
- development and production of program or discussion guides, exhibition labels, brochures, digital assets, publications, or other interpretive material
- design of the interpretive formats
- planning and presentation of public programs and related publicity
- evaluation of the project's impact
- planning and conducting project-specific training for docents, discussion coordinators, or other interpretive leaders
- development, production, and publication of curriculum guides, catalogs, and other materials for teachers and students
- exhibition design and fabrication, crating, and shipping
- conservation treatments of objects, not to exceed 15% of the award
- development and construction of interactive components
- publicity expenses

**Program categories**

- Exhibitions - supports the creation of permanent exhibitions (on view for at least three years), single-site temporary exhibitions (open to the public for a minimum of two months) and traveling exhibitions that will be available to public audiences in at least two venues in the United States (including the originating location).

- Historic Places - supports long-term interpretive programs for historic sites, houses, neighborhoods, and regions that are intended to be presented to the public for at least three years. Such projects might include living history presentations, guided tours, exhibitions, and public programs.

- Humanities Discussions - supports series of public programs related to your organization's humanities focus and resources, such as symposiums, lecture series, reading and discussion programs, analytical discussions of museum collections or theater/musical performances, lifelong learning programs, or other methods of face-to-face audience engagement or informal education.

  Humanities Discussions programs should engage diverse public audiences with humanities resources (e.g.,

historic artifacts, artwork, works of literature, or archival documents) and focus on topics or themes meaningful to your community. Discussion programs aimed at a local audience should make connections to broader national themes. Programs may be moderated or led by a range of humanities experts such as historians, curators, librarians, scholars, authors, artists, or community or tribal leaders who will interpret thematic content and spark conversation and critical analysis.

Humanities Discussions must be:

- centered on specific humanities resources
- firmly grounded in rigorous scholarship and thoughtful analysis
- guided by a range of project-related humanities scholars and interpretive experts, such as educators, curators, community historians, tribal leaders, or librarians
- conducted without partisan advocacy
- respectful of divergent views
- free of ad hominem remarks
- devoid of bias based on ethnicity, religion, gender, disability, or race

Funding levels

- **Planning** - awards are available only to Exhibitions and Historic Places applicants. NEH does not fund Humanities Discussions at the Planning level. These awards support projects that have completed preliminary work resulting in the identification of possible analytical themes and interpretive methods that you will further explore during the planning period.
- **Implementation** - awards support projects that are in the final stages of preparation to "go live" before the public. Activities may include final scholarly research and consultation, design, production, and installation of a project for presentation to the public. The period of performance must include the required minimum exhibition time.
  - Exhibitions (single-site temporary) - exhibition available to audiences at one venue in the United States for at least two months
  - Exhibitions (permanent) - available to audiences at one venue in the United States for at least three years
  - Exhibitions (traveling) - available to audiences at a minimum of two venues in the United States (including the originating location)
  - Historic Places - interpretive tours, living history presentations, or other public interpretation available at a historic place for at least three years
  - Humanities Discussions - At least ten in-person, virtual, or hybrid public programs presented during the period of performance and spanning a period of three months to two years

- **Chair's Special Awards** - Applicants proposing ambitious projects of exceptional significance and impact may apply for a Chair's Special Award of up to $1,000,000. These projects must demonstrate the potential to address important humanities ideas in new ways and must be likely to reach very large national audiences. Successful proposals typically feature collaboration between multiple partners and a broad combination of diverse formats. Chair's Special Awards are rare: NEH typically awards no more than one per year.

**Link to Additional Information:** https://www.neh.gov/grants/public/public-humanities-projects

## 14. Planning Awards for AIM-AHEAD Data and Infrastructure Capacity Building (DICB) at MSIs, Artificial Intelligence/Machine Learning Consortium to Advance Health Equity and Researcher Diversity (AIM-AHEAD)

**Application Deadlines: June 26, 2023**
**Estimated Range of Awards: up to $500,000 over 12 months in total costs**

This Call for Proposals aims to solicit applications to develop the workforce capacity and opportunities for minority-serving institutions to participate in the development and operations of AI and data infrastructure. The program uses a two-phased approach to develop institutional capacity in the data and infrastructure and become partners with the AIM-

AHEAD Coordinating Center that will support and supplement the activities of the Data and Research Core and the Infrastructure Core. In planning Phase I of this program, we solicit planning grant applications that propose to develop and demonstrate institutional capacity in data and infrastructure through needs assessment and development of partnerships and workforce capacity to be competitive for Phase II of implementation of the Data and Infrastructure Programs and become partners of the AIM-AHEAD Coordinating Center.

We are planning a two-phased approach. During Phase 1, successful applicants will carry out activities needed to prepare competitive Phase 2 applications. We anticipate that Phase 1 activities will include: introspective assessments of current infrastructure and workforce capabilities and gaps, partnerships with leading institutions to share expertise and create vibrant learning communities, outward assessments, and partnerships with the ACC to understand the needs of Phase 2.

Phase I planning awards are expected to include the following activities, but participants are encouraged to propose additional planning activities if they contribute to the development of a robust DICB application:

- Development of multi-disciplinary and/or multi-institutional partnerships between relevant organizations, including other minority-serving institutions, research-intensive institutions, institutions/departments with robust AI/ML and data repository, harmonization and curation capabilities, professional societies, and community-serving organizations, to establish a single new partner in one of the four focus areas of DICB described below. We anticipate team partnerships between faculty, data scientists, IT departments, ethical/legal experts, and low-resource and high-resource institutions toward the common goals of this program.
- Detailed assessment of both A) workforce AI/ML training and development needs and B) existing AI/ML data and infrastructure capacity of institutions and/or organizations within the proposed application and an analysis of how successful activities may be effectively extended through the Phase II award.
- Identification of implementation strategy and/or development of open-source AI/ML tools, data sources, governance models, data and infrastructure security processes, data curation and harmonization processes will be included in the Phase II application.
- Demonstration of institutional capacity, including identification, and inclusion of various expertise needed for accomplishing one or more goals of the four focus areas of DICB, including assessment of data and infrastructure capacity and development of partnerships.
- Development of the workforce capacity through training in the development and operation of data and infrastructure.

Phase II (implementation phase) will follow Phase I. Phase I planning award awardees will be invited to submit applications with a detailed plan for Phase II activities in the focus area of their Phase I award. The plan will be reviewed for scientific and programmatic alignment with the AIM-AHEAD coordinating center. We anticipate one team award per focus area in Phase II. Phase II applicants will be selected based on Phase I performance, engagement with A-CC cores and activities, scientific and programmatic alignment with A-CC goals, and the robustness of their plan for Phase II.

Phase II awardees (total 4, one in each focus area) are expected to contribute to the following activities as AIM-AHEAD consortium partners:

- Integrate their activities with the other partners in the Data and Research Core (DRC) and Infrastructure Core (IC) of the AIM-AHEAD Coordinating Center.
- Provide data and infrastructure concierge services/support, workforce development, and training for the future stakeholders of the AIM-AHEAD Consortium.
- Strategize and establish best practices for data sharing, harmonization, and AI/ML infrastructure needs of AIM-AHEAD Consortium partners and trainees.
- Integrate access to data, infrastructure, and training content for consortium stakeholders using the AIM-AHEAD Connect Platform.

In planning Phase I of this program, we solicit planning award applications that propose to develop and demonstrate

institutional capacity in data and infrastructure through needs assessment and development of partnerships and workforce capacity to be competitive for Phase II of implementation of the Data and Infrastructure Programs and become partners of the AIM-AHEAD Coordinating Center. Each phase is anticipated to be 12 months in duration. It is anticipated that 8 awards (two in each of the focus areas) will be made in phase I, and 4 awards (one in each of the focus areas) will be made in phase II.

**DICB Focus Areas and Expected Outcomes**

Planning award applications in Phase I should be developed in one of the following focus areas. Each application will select one focus area for its institutional capacity building. Successful Phase I awardees will be invited to submit a Phase II application to implement their focus area for the AIM-AHEAD Coordinating Center (ACC). A key component for success in AIM-AHEAD is the ability to work collaboratively across teams. In addition to addressing a specific focus area, applications should include how they plan to work collaboratively with the other DICB funded projects.

1. Research Data Repository to Host AIM-AHEAD Generated Datasets: The overarching goals of this focus area (in a two-phased approach) are, in Phase I, to conduct the feasibility study, capability assessment, partnerships (between low-resource and high-resource institutions), and workforce development by the applicant awardee, and, in Phase II, to design and develop an AIM-AHEAD data repository (working closely and sharing best practices with the Infrastructure Core) to host datasets currently in development through the data and research core (DRC), and generated by other AIM-AHEAD programs and partners. The data repository will host de-identified, synthetic, and research datasets (with participant consent for data use) for research and training use by AIM-AHEAD Consortium members and trainees. This is an opportunity to foster the adoption of standardized data formats and common data models for data harmonization. The awardee (as integral part of ACC) will seek to understand the type of data and data resources with consideration for health disparities research, including EHR, synthetic data, social determinants, and other types of data. The multidisciplinary awardee will demonstrate institutional capabilities and expertise in the design and development of different data infrastructure modalities, capabilities and expertise in cybersecurity, and attaining, maintaining, and providing services in security standards (such as FISMA, HIPAA, FedRAMP, etc.) while at the same time, ensuring the data is maintained and governed to preserve privacy and autonomy. In Phase I, awardees should develop the capacity and knowledge of cybersecurity standards and compliance to meet federal security standards through needs assessment and workforce development. Awardees in Phase I will work closely with ACC partners to train and acquire knowledge and skills to comply with the NIH approval process in cybersecurity and data governance required to host AIM-AHEAD datasets. In Phase II, the awardees must demonstrate institutional capabilities and expertise in cybersecurity, attain compliance with security standards (such as FISMA, HIPAA, FedRAMP, etc.), and demonstrate the capacity to provide services in cybersecurity. Awardees in Phase II will be required to go through the NIH approval process in cybersecurity and data governance prior to hosting and managing AIM-AHEAD datasets.

2. Resource Center for Data Curation, Linkages, and Harmonization Datasets: The overarching goals of this focus area (in a two-phased approach) are to design and implement robust data pipelines to support data curation, linking and harmonization, and data preprocessing for AI-readiness, for the datasets that are generated by AIM-AHEAD programs to be hosted in the research data repository. In Phase I (planning phase), the awardee teams (as integral part of ACC) will work closely with its partner (research-intensive institutions with proven capacity for data curation, harmonization, and AI data readiness), the Data and Research Core, the other research data repository awardee (planning phase), and other DICB awardees to address data linkages and curation priorities, research strategies, and best practices in data harmonization from multiple data sources including social determinants of health data. The awardee teams will acquire and demonstrate the skills and knowledge needed for: data acquisition, data access models, participant consent, privacy protection, cybersecurity, data sharing and management, data curation, linking, and harmonization for datasets. In Phase II, the awardee team will share insights and methods with other AIM-AHEAD Consortium partners in data acquisition, data access models, cybersecurity, data sharing and management, data curation, linking, and harmonization for datasets. The goal is to support research data pipelines to form an inclusive basis for AI/ML use cases to illuminate strategies and approaches to ameliorating health disparities. An understanding of the linkages and harmonization will be used to

drive the data and computing infrastructure design and associated data governance models and training offerings for the consortium stakeholders.

3. Resource Center for Data Access and Data Governance: The overarching goals of this focus area (in a two-phased approach) are to support the data and research core, by establishing a resource center for data access and data governance needs to support the consortium stakeholders. With this focus area we are seeking organizations with the potential to develop expertise in data access and governance policy and data sharing models as a means to AI/ML capacity building to advance health equity. In Phase I, the awardee (as integral part of ACC) will determine options and needs of AIM-AHEAD consortium stakeholders related to data sharing, data access (e.g., types of data access control), oversight, regulatory policies, and governance that facilitate AI/ML, including, as appropriate, options for distributed/federated learning and supporting the technical needs of the consortium members who range from novice to expert in AI/ML. In Phase II, the awardee will partner with the ACC to enhance the capacity of consortium institutions and organizations to develop knowledge of data governance, DUA, regulatory policies, cybersecurity, data management issues, incidences, types of data access control, and ethical considerations in data management; when data sharing, they will give particular attention to tribal sovereignty treaties, laws, regulations, and preferences regarding their data, as well as social determinants of health data and data from vulnerable populations. In addition, they will develop skills and knowledge in identifying appropriate data infrastructure modalities (centralized Repository vs. federated and distributed) based on the type of datasets and stakeholder needs, including tribal laws).

4. Resource Center to Provide Concierge Service to Support Open-source AI/ML Tools: The overarching goals of this focus area (in a two-phased approach) is to bring new awardees to be new collaborators with the ACC to establish a resource center to provide real-time support and concierge service for AI/ML tools, cloud computing, open-source machine learning/deep learning tools, data analysis and preprocessing, and other support needed. In Phase I, the awardee will research, acquire, and develop skills in open-source and cloud-based AI/ML and relevant software and technologies. As an integral part of the ACC, awardees in Phase I will develop phase II activity for providing individualized technical assistance to A-CC stakeholders with AI/ML tools, training models, validation, algorithm optimization, development of AI applications, and research. Phase II awardees will provide services, including hosting regular office hours and providing real-time support using the AIM-AHEAD Connect help desk. Awardees will create knowledge articles to support A-CC stakeholders and projects to leverage open-source and cloud-based AI/ML tools and services. There are a wide variety of data and computing infrastructure options to facilitate AI/ML. Cloud platforms, for example, integrate data storage, compute clusters, security, and, often, analysis tools for geographically distributed users and groups. Distributed or federated learning approaches are more appropriate when data cannot be pooled. In Phase II, the awardee team will consider the needs and constraints of AIM-AHEAD Consortium partners regarding different data and computing infrastructure, tools, and governance models, including data policy and organizational models, to provide concierge service and support on these tools. The awardee will support workforce development and training in AI tools and infrastructure resources for AIM-AHEAD Consortium members, including faculty, staff, and students with varying levels of AI/ML technical skills.

**Link to Additional Information:** https://www.aim-ahead.net/call-for-proposals-year-2/dicb/

## 15. Research With Activities Related to Diversity (ReWARD) (R01 Clinical Trial Optional), NIH

**Application Deadline: June 5, 2023; October 5, 2023**
**Award Budget: budgets are not limited but need to reflect the actual needs of the proposed scientific research**

The ReWARD program will support scientific research in areas related to the programmatic interests of one or more of the participating NIH Institutes and Centers (ICs) and ongoing DEIA activities focused on enhancing diversity in the biomedical research enterprise within the United States and territories. Note that the biomedical research enterprise includes a range of research, including basic science, behavioral, social science, and translational and clinical research and will be described hereafter as biomedical research. The long-term goal of this program is to enhance diversity in the biomedical research workforce.

Promoting diversity in the extramural scientific workforce is critical to the success of the NIH mission and is consistent with the mandates of the 21st Century Cures Act. While scientific workforce diversity is integral to the NIH mission, expanding the pool of academic investigators from nationally underrepresented backgrounds in the biomedical research workforce has remained an elusive goal (see Policy Supporting Next Generation Researchers Initiative). For example, while the United States has seen a significant increase in the number of Ph.D. degrees in the biomedical sciences earned by scientists from historically underrepresented racial and ethnic groups in the biomedical research workforce, corresponding increases in the ranks of the faculty in basic science departments (Gibbs, et al., eLife 2016; Valantine, Lund & Gammie, CBE-Life Sciences Education, 2016) or NIH-funded investigators (Hoppe et al, 2019; Lauer, 2020) have not occurred. Similarly, women have earned a majority of biomedical Ph.Ds. since 2008 (NSF data), but only approximately 1/3 of NIH-funded PD/PIs are women (NIH Databook).

Scientists who assume substantial academic service, outreach, and mentoring duties to promote DEIA often experience career setbacks and difficulty supporting their research efforts because of the time they devote to their substantial DEIA efforts (Rodríguez et al., 2015; Gewin 2020; Faucett et al., 2022). Supporting and recognizing DEIA efforts are likely to increase the retention of individuals from underrepresented groups in the biomedical research workforce. For example, studies suggest that underrepresented researchers who experience the altruistic or communal value of conducting biomedical research feel more psychologically involved with their research over time and this may contribute to retention (Diekman et al., 2010; Thoman et al, 2015). In addition, many successful DEIA-promoting programs are located at under-resourced institutions that serve students from diverse backgrounds. These institutions generally have lower levels of funding from NIH than do higher-resourced institutions. A program to promote the research projects of PDs/PIs who make significant contributions to DEIA efforts may serve the dual purposes of broadening the pool of researchers conducting biomedical research as well as the research settings in which NIH-funded biomedical investigations are conducted, while at the same time enabling these researchers and institutions to continue or expand their important DEIA activities. Broadening the institutions that participate in NIH-funded research would also increase access to research experiences for students from across the country, which would increase the pool of talented researchers available to the Nation in the future, including from groups currently underrepresented in biomedical research.

ReWARD funding will support research in areas related to the programmatic interests of one or more of the participating NIH Institutes and Centers (see below) and ongoing DEIA activities focused on enhancing diversity in the biomedical research enterprise within the United States and territories. NIH intends to support ReWARD renewals through future re-issuances of this funding announcement.

NIH encourages institutional support of individuals who receive ReWARD funding (e.g., through protected time for the proposed activities, additional staff, resources and/or infrastructure enhancements) and requires an institutional letter of support (see Letters of Support in Part 2. Section IV.2).

Because this funding is intended for individuals with no current NIH research project grant funding at the time of the award (e.g., individuals who may have faced career setbacks or delays), PDs/PIs applying to the ReWARD program are not expected to have extensive publications and preliminary data. However, investigators should have robust research aims and strategies that are rigorous, feasible, and likely to push forward the boundaries of scientific discovery. DEIA activities that focus solely on research mentoring or training within the PD/PI's normal duties, are not likely to rise to the level of significant, sustained, and/or impactful DEIA contributions supported within the goals of this program.

The NIH recognizes that diverse teams working together and capitalizing on innovative ideas and distinct perspectives outperform homogeneous teams. There are many benefits that flow from a diverse scientific workforce, including: fostering scientific innovation, enhancing global competitiveness, contributing to robust learning environments, improving the quality of the research, advancing the likelihood that underserved populations participate in, and benefit from research, and enhancing public trust.

To support the best science, NIH encourages inclusivity in research. Examples of structures that promote diverse

perspectives include but are not limited to:

- Transdisciplinary research projects and collaborations among researchers from fields such as behavioral/social sciences, computational biology, physics, engineering, mathematics, computer and data sciences, as well as bioethics.
- Engagement from different types of institutions and organizations (e.g., research-intensive, undergraduate-focused, minority-serving, community-based).
- Individual applications and partnerships that enhance geographic and regional heterogeneity.
- Investigators and teams composed of researchers at different career stages.
- Training and mentoring opportunities encouraging participation of individuals from diverse backgrounds, including those from groups traditionally underrepresented in the biomedical, behavioral, and clinical research workforce (see NOT-OD-20-031), such as underrepresented racial and ethnic groups, those with disabilities, those from disadvantaged backgrounds, and women.
- Project-based opportunities to enhance the research environment to benefit early- and mid-career investigators.

**Specific Areas of Research Interest**

- **NCCIH** will support research that is well aligned with the NCCIH Strategic Plan. Research areas funded by the institute broadly fall into three therapeutic areas, including nutritional, psychological, and physical approaches. These may include the array of chemical space occupied by natural products derived from plants, fungi, bacteria, marine organisms, or animals; as well as mind and body approaches such as yoga, massage therapy, meditation, mindfulness-based stress reduction, spinal/joint manipulation, acupuncture, and music-based interventions. NCCIH is interested in research that takes a transdisciplinary approach that integrates natural, social, and health sciences and transcends traditional boundaries to investigate the multifactorial process of whole person health restoration. Applications proposing a clinical trial must follow the Consolidated Notice on NCCIH Clinical Trials Policies as only mechanistic clinical trials will be accepted by NCCIH through this FOA.

- **NEI** will support applications that address or seek fundamental knowledge related to visual function, including but not limited to cellular and molecular neuroscience, imaging, genetics, development, basic and translational research on vision including how the visual system works from the eyes to the brain in health and disease. NEI encourages an emphasis on understanding and addressing health disparities that are experienced by vulnerable populations. NEI will not support clinical trials that are greater than minimal risk on this funding opportunity. Minimal risk is defined as the probability and magnitude of harm or discomfort anticipated in the research are not greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests. Please refer to https://www.nei.nih.gov/grants-and-training/funding-opportunitiesto find the appropriate NIH or NEI-specific FOA for clinical trials. All investigators are encouraged to contact the NEI Scientific Program Officer in advance of submission.

- **NHGRI** supports resources, approaches, and technologies that accelerate genomic research focused on the structure and biology of genomes; the genomics of disease; the implementation and effectiveness of genomic medicine; computational genomics and data science; the impact of genomic technology, advances, and implementation on health disparities and health equity; and ethical, legal, and social issues related to genomic advances. NHGRI recognizes the importance of diversity in the genomic workforce, without which the promise of genomics cannot be fully achieved.

- **NIBIB** interests include the development and integration of advanced bioengineering, sensing, imaging, and computational technologies for the improvement of human health and medical care. An application is not within the NIBIB mission if its principal focus is the development of a technology with the goal of understanding basic biological function or pathological mechanisms. Additionally, NIBIB only supports projects developing platform technologies that are applicable to a broad spectrum of disorders and diseases. However, applicants may propose research that utilizes only a single tissue, organ, or physiological condition as a model system to facilitate the development of what is expected to be a more broadly applicable enabling

technology. Potential applicants are encouraged to contact the appropriate Program Director in their scientific program area of interest to determine if their research fits within the NIBIB mission.

- **NIDA** supports innovative research addressing critical issues of neuroscience, genetics, behavior, prevention, treatment, epidemiology, etiology, health services, HIV/AIDS, and co-occurring opportunistic infections (e.g., viral hepatitis C, tuberculosis, sexually transmitted infections) associated consequences in substance-using populations, medication development, or other research areas relevant to drug abuse. NIDA priorities are further described in the NIDA Strategic Plan (see Director's Message | National Institute on Drug Abuse (NIDA) (nih.gov) ) and on the NIDA Notice of Special Interest webpage (see Search All Funding Opportunities | National Institute on Drug Abuse (NIDA) (nih.gov) ). Applicants are encouraged to contact a program official to discuss the proposed application.

- **NIDCD** supports biomedical research, behavioral research, and research training in the normal and disordered processes of hearing, balance, taste, smell, voice, speech, and language. Applicants are strongly encouraged to learn more about NIDCD's mission areas at Extramural Research. NIDCD's priorities are further described in NIDCD's 2023-2027 Strategic Plan. Potential applicants are strongly encouraged to discuss their research plans with Program Staff in relevant areas.

- **NIDCR** supports research and research training to advance fundamental knowledge about dental, oral, and craniofacial (DOC) health and disease, and to translate these findings into prevention, early detection, and treatment strategies that improve overall health for all individuals and communities across the lifespan. Strategic Priorities are laid out in NIDCR Strategic Plan 2021-2026.

- **NIGMS** supports basic research that increases our understanding of biological processes and lays the foundation for advances in disease diagnosis, treatment, and prevention. NIGMS' research mission is aimed at understanding the principles, mechanisms, and processes that underlie living organisms, often using research models. NIGMS does not support research that is relevant to the diseases, organ systems, or stages of life within the mission areas of other NIH Institutes and Centers. NIGMS accepts investigator-initiated applications for clinical trials using the R01 mechanism with the following considerations and limitations (see NOT-GM-22-027 and Investigator-Initiated Applications for Clinical Trials (R01) for further details).

- **NIH BRAIN Initiative** is aimed at revolutionizing our understanding of the human brain, by accelerating the development and application of innovative technologies. Grant applications that fall into one or more of the seven high-priority research areas, including neuroethics, will be considered for funding.

- **NIMH** supports research on topics that include but are not limited to basic neuroscience and behavioral science; translational application of brain and behavior relationships in healthy and diseased states; and preventive, treatment and services interventions. Applications considered for funding by the NIMH must fall within the areas of priority detailed in the NIMH Strategic Plan and the NIMH Strategic Research Priorities. It is recommended that investigators contact NIMH Scientific/Research staff well in advance of submitting applications to discuss the match to NIMH priorities.

- **NIMHD** supports the study of many aspects of minority health and health disparities — from biological and population sciences to clinical, behavioral, and translational research, as well as research on health care services, health systems and workforce development. NIMHD focuses on the full continuum of causes of health disparities and the interrelation of these causes. NIMHD projects must include a focus on one or more of the following populations that NIH designated as experiencing health disparities in the United States and its territories: African Americans, Latinos/Hispanics, American Indians and Alaska Natives, Asian Americans, Native Hawaiians and Pacific Islanders, less privileged socioeconomic groups, underserved rural populations, and sexual and gender minorities. NIMHD encourages projects that use approaches encompassing multiple domains of influence (e.g., biological, behavioral, sociocultural, environmental, physical environment, health system) and multiple levels of influence (e.g., individual, interpersonal, family, peer group, community,

societal) to understand and address health disparities (see the NIMHD Research Framework for more information). Studies using animal models or exclusively basic science, or studies based outside the U.S. or its territories will not be supported by NIMHD under this FOA.

- **NINDS** will support applications that address or seek fundamental knowledge about the brain and nervous system by supporting and conducting research on the healthy and diseased brain, spinal cord, and peripheral nerves and to use that knowledge to reduce the burden of neurological disease. NINDS supports basic, translational, and clinical research. NINDS also encourages activities focused on understanding and addressing disparities in neurologic health, healthcare, and health outcomes in disparate populations, including racial and ethnic minorities, the geographically disadvantaged, sex and gender minorities, and others who have been historically underserved, marginalized, and adversely affected by persistent inequality and socioeconomic disadvantage. NINDS generally expects a minimum effort of 2.4 calendar months (or 20% effort) towards research on an R01.

- **NLM** supports research that incorporates innovative biomedical informatics and data science approaches that harness the digital healthcare ecosystem and has the potential to reduce health disparities while improving access to care, continuity of care, and/or health outcomes. Further, NLM is interested in research that leverages health data and develops novel approaches (e.g., clinical decision support systems; machine learning/artificial intelligence) that account for systematic biases and blind spots in health data and the development of tools and approaches that may be tailored for diverse populations.

**Link to Additional Information:** https://grants.nih.gov/grants/guide/pa-files/PAR-23-122.html

## 16. Robert Noyce Teacher Scholarship Program, NSF

**Application Deadlines: August 29, 2023**
**Anticipated Funding Amount:**

- **Conferences: between $25,000 and $100,000**
- **Track 1: Scholarships and Stipends (S&S): up to $1,200,000 with a duration of up to 5 years**
- **Track 2: Teaching Fellowships (TF): up to $3,000,000, with a duration of up to 6 years**
- **Track 3: Master Teaching Fellowships (MTF): up to $3,000,000, with a duration of up to 6 years**
- **Track 4: Noyce Research: up to $1,000,000, with a duration of up to 5 years**
- **Capacity Building: up to $100,000, with a duration of up to 1 year**

The Robert Noyce Teacher Scholarship Program consists of four tracks: Track 1: The Robert Noyce Teacher Scholarships and Stipends (S&S) Track, Track 2: The NSF Teaching Fellowships (TF) Track, Track 3: The NSF Master Teaching Fellowships (MTF) Track, and Track 4: The Noyce Research Track. In addition, submissions are accepted for Capacity Building projects, which are intended to promote the development of future submissions in Track 1: S&S, Track 2: TF, Track 3: MTF, or Track 4: Noyce Research. Submissions from and partnerships among four-year institutions, two-year institutions, and/or minority-serving institutions are encouraged.

Noyce funding may also be requested to support:

- Research Experiences in STEM Settings (RESS) projects providing authentic STEM research experiences and opportunities for pre-service and in-service Noyce and non-Noyce STEM teachers. Research settings may include but are not limited to national laboratories and NASA centers and in STEM disciplines identified as critical needs for the Nation. Critical need disciplines include quantum computing and quantum science, robotics, artificial intelligence, microelectronics, and machine learning, computer science, data analytics, and possible other timely STEM areas in current need of domestic professionals. The research should serve as a basis for teachers to create learning experiences that can be used in K-12 classrooms, thus bringing knowledge from their experience to the classroom to convey the excitement of scientific research to students and to improve their STEM learning experience.

- Conferences consistent with the mission of the Noyce Program.

**Conferences or Research Experiences in STEM Settings (RESS)**

Proposals for conferences or STEM research experiences for pre-service or in-service teachers may be submitted at any time following consultation with and consent of a Noyce Program Officer. Successful proposals submitted by the Noyce Program's August deadline will be prioritized for support in the respective year.

Proposals for conferences addressing important issues in undergraduate STEM teacher preparation or education are welcome. The Noyce Program encourages conference proposals that:

(1) address diversity, equity, and inclusion in STEM teaching and learning, including recruitment and retention efforts;
(2) explore strategies to empower faculty and other stakeholders to create systemic change that improves diversity, equity, and inclusion in undergraduate STEM teacher education;
(3) focus on ensuring K-12 STEM teaching reflects modern pedagogical teaching practices;
(4) involve substantive collaborations (e.g., with educational researchers, disciplinary scientists, leaders from K-12 schools).

Conference proposals should include a conceptual framework for the conference, draft agenda, possible participant list, the outcomes or products that will result from the conference, and how these products serve the goals of the Noyce Program. The budgets must be discussed with a Noyce Program Officer prior to submission.

**Track 1: The Robert Noyce Teacher Scholarships and Stipends (S&S) Track -** supports institutions to recruit and prepare STEM teachers for high-need LEAs. These projects provide scholarships to undergraduate Noyce-eligible STEM majors and stipends to Noyce-eligible STEM professionals who become STEM teachers.

To be eligible to receive a grant under Track 1: S&S, the project must have identified partnerships with (1) at least one high-need LEA and a public school, served by the LEA, identified as the location in which clinical teaching experiences will occur and (2) at least one institution of higher education (IHE. The IHE partnership must include:

1. a department that provides a program of study in a STEM discipline; and
2. either (a) a department or equivalent within the IHE partnership that provides a teacher preparation program leading to teacher certification or licensure; or (b) a two-year IHE that offers a teacher preparation program or dual enrollment program with an IHE participating in the partnership.

Track 1: S&S projects are expected to develop and implement exemplary STEM education programs to recruit and prepare undergraduate Noyce-eligible STEM majors and/or professionals to become STEM teachers with teacher certification or licensure in secondary science, mathematics, engineering, or computer science, or as elementary teachers with preparation in mathematics or science. Proposals should include evidence-based teacher preparation approaches and detail how best practices will be infused in the program of study. As learning technologies and environments continuously evolve, proposals are also expected to include effective and modern approaches to teacher education. Proposals should detail how these approaches and other specialized pedagogy will effectively promote the engagement of students in diverse, equitable, and inclusive STEM learning experiences in elementary and secondary schools.

**Track 2: The National Science Foundation Teaching Fellowships Track (TF)** – offers awards to institutions to administer fellowships and programmatic support to STEM professionals. These individuals, referred to as Teaching Fellows (TFs), receive support to complete a master's degree program with teacher certification or licensure, and thereafter become a STEM teacher in an elementary or secondary school. In addition, after the completion of the master's degree program that provides certification or licensure, TFs receive a salary supplement of $10,000/year or more each year for four years.

To be eligible to receive a grant under Track 2: TF, the project must have identified partnerships with

1. at least one high-need LEA and a public school, served by the LEA, identified as the location in which clinical teaching experiences will occur;
2. at least one nonprofit organization that has a demonstrated capacity to provide expertise or support to meet the goals of the proposed project;
3. at least one institution of higher education (IHE) (42 USC 1862n-1a(b)).

The IHE partnership must include:

- a department that provides a program of study in a STEM discipline; and
- either (a) a department or equivalent within the IHE partnership that provides a teacher preparation program leading to teacher certification or licensure; or (b) a two-year IHE that offers a teacher preparation program or dual enrollment program with an IHE participating in the partnership.

IHEs, K-12 schools, or school districts are not eligible to serve as nonprofit partners. Examples of supports the partnering nonprofit organization may provide include, but are not limited to, providing TFs with opportunities for professional development, leadership experience, curriculum design, research experiences, or mentorship. This may include programs that pair TFs with currently employed or recently retired STEM professionals.

Track 2 projects are expected to develop and implement exemplary STEM education programs for STEM professionals. Proposals should include evidence-based teacher preparation approaches and detail how best practices will be infused in the program of study. As learning technologies and environments continuously evolve, proposals are also expected to include effective and modern approaches to teacher education. Proposals should detail how these approaches and other specialized pedagogy will effectively promote the engagement of students in diverse, equitable, and inclusive STEM learning experiences in elementary and secondary schools.

**Track 3: The National Science Foundation Master Teaching Fellowships (MTF) Track** – offers awards to institutions to administer fellowships and programmatic support to experienced and exemplary K-12 STEM teachers, who (1) have already received teacher certification or licensure, (2) possess a master's or bachelor's degree in education or a STEM discipline, and (3) participate in a program for developing teacher leaders. These selected individuals are referred to as Master Teaching Fellows (MTFs).

MTFs must be elementary or secondary STEM teachers who have either a: (1) master's degree in education or a STEM discipline; or (2) bachelor's degree in education or a STEM discipline and concurrent enrollment in an education or STEM master's degree program.

To be eligible to receive a grant under Track 3: MTF, the project must have identified partnerships with

1. at least one high-need LEA and a public school, served by the LEA, from which the experienced and exemplary teachers will be selected;
2. at least one nonprofit organization that has a demonstrated capacity to provide expertise or support to meet the goals of the proposed project;
3. at least one institution of higher education (IHE) (42 USC 1862n-1a(b)).

The IHE partnership must include:

- a department that provides a program of study in a STEM discipline; and
- either (a) a department or equivalent within the IHE partnership that provides a teacher preparation program leading to certification or licensure; or (b) a two-year IHE that offers a teacher preparation program or dual enrollment program with an IHE participating in the partnership.

IHEs, K-12 schools, or school districts are not eligible to serve as nonprofit partners. Examples of supports nonprofit organizations may provide include, but are not limited to, providing MTFs with opportunities for professional development, leadership experience, curriculum design, mentorship, or research experiences. Such experiences may include the pairing of MTFs with currently employed or recently retired STEM professionals.

Track 3 projects are expected to develop and implement exemplary STEM education focused programs for MTFs and must administer fellowships, including providing the MTF salary supplements. Proposals should include evidence-based approaches to developing and retaining effective teacher leaders in high-need LEAs. As learning technologies and environments continuously evolve, proposals are also expected to include effective and modern approaches to developing teacher leaders. Proposals should detail how these approaches and other specialized pedagogy will effectively promote the engagement of students in diverse, equitable, and inclusive STEM learning experiences in elementary and secondary schools.

**Track 4: The Noyce Research Track** – offers awards to support exploratory studies and research projects that address BOTH STEM teacher effectiveness and retention in high-need LEAs. Track 4 proposals that examine the impact of Noyce projects on student achievement as part of demonstrating teacher effectiveness are strongly encouraged. Methodologies should be selected based on research questions to be investigated. Qualitative, quantitative, and mixed methodologies are all welcome, as are research syntheses. Submissions informed by the Common Guidelines for Education Research and Development as well as basic tenets of Design-Based Implementation Research are encouraged.

Track 4: Noyce Research projects might examine teacher candidate characteristics and/or programmatic features that are shown to result in effective teachers who persist in teaching in high-need LEAs. Approaches to examining STEM teacher effectiveness might include investigating culturally relevant and inclusivity-focused aspects of effectiveness, including individual or institutional factors that contribute to effectiveness. It is imperative that Track 4 projects use evidence-based principles of diversity, equity, and inclusivity in studying the effectiveness and retention of STEM teachers. Projects may study effectiveness and retention of Noyce recipients as teachers in high-need LEAs beyond their service requirement. Studies that identify teacher or school experiences, characteristics, or models that result in retention of STEM teachers, including STEM teachers of color, are strongly encouraged.

Track 4 projects must include substantive collaboration among educational researchers (including those from the social and behavioral sciences, as applicable), faculty members (or persons) with expertise in a STEM discipline, and faculty members (or persons) with expertise in STEM education.

**Capacity Building** – intended to support institutions to prepare a future competitive Noyce submission in Track 1: S&S, Track 2: TF, Track 3: MTF, or Track 4: Noyce Research. Capacity Building projects may include a focus on collecting data, developing partnerships, building infrastructure, developing evidence-based models and strategies for recruiting, preparing and supporting STEM teachers, or other related development and planning efforts. Noyce particularly encourages Capacity Building submissions that focus on (1) new or revised curricula that apply modern approaches to teacher education, (2) specialized pedagogy required to effectively teach STEM in high-need elementary and secondary schools and school districts, or (3) other prevalent and timely needs in STEM teacher preparation. Collaborations between successful funded Noyce projects and institutions seeking to develop capacity are encouraged.

**Link to Additional Information:** https://www.nsf.gov/pubs/2023/nsf23586/nsf23586.htm

## 17. Decision, Risk and Management Sciences (DRMS), NSF

**Application Deadlines: August 18, 2023**
**Award Amounts: budgets are not limited but need to reflect the actual needs of the proposed project**

The Decision, Risk and Management Sciences Program (DRMS) supports scientific research directed at increasing understanding and effectiveness of decision making by individuals, groups, organizations and society. DRMS supports research with solid foundations in theories and methods of the social and behavioral sciences. This social and behavioral science research should advance knowledge, address fundamental scientific and societal issues and have strong broader impacts. DRMS funds disciplinary and interdisciplinary research, doctoral dissertation research improvement grants (DDRIGs) and conferences in the following areas: judgment and decision making; decision analysis and decision aids; risk analysis, perception and communication; societal and public-policy decision making; management science and organizational design. The program supports the use of the RAPID funding mechanism for research that involves ephemeral data, typically tied to disasters or other unanticipated events. Much less frequently, the program also supports

highly unusual, proof-of-concept, high-risk projects that are potentially transformational (Early Concept Grants for Exploratory Research – EAGER).

The Doctoral Dissertation Research Improvement Grants (DDRIG) funding opportunity is designed to improve the quality of dissertation research. DDRIG proposals are submitted by a faculty member on behalf of the graduate student. DDRIG awards provide funds for items not normally available through the student's university such as enabling doctoral students to undertake significant data-gathering projects and to conduct field research in settings away from their campus. DDRIGs do not provide cost-of-living or other stipends or tuition. Outstanding DDRIG proposals specify how the knowledge to be created advances theoretical understanding of the subject.

Proposals for Doctoral Dissertation Research Improvement Grants (DDRIGS) in Decision, Risk and Management Sciences should follow the directions for submissions in the NSF Proposal & Award Policies & Procedures Guide. Please contact a DRMS program officer if you plan to submit a DDRIG proposal.

**Link to Additional Information:** https://new.nsf.gov/funding/opportunities/decision-risk-management-sciences-drms-0

## Non-Scientific Forecasted Opportunities

### 1. Humanities Connections, NEH

The Humanities Connections program seeks to expand the role of the humanities in undergraduate education at two- and four-year institutions. Awards support innovative curricular approaches that foster partnerships among humanities faculty and their counterparts in the social and natural sciences and in pre-service or professional programs (such as business, engineering, health sciences, law, computer science, and other technology-driven fields), in order to encourage and develop new integrative learning opportunities for students.

**Link to Additional Information:** https://www.neh.gov/grants/education/humanities-connections

### 2. Dynamic Language Infrastructure - Documenting Endangered Languages Fellowships, NEH

The Dynamic Language Infrastructure – Documenting Endangered Languages (DLI-DEL) Fellowships are offered as part of a joint, multi-year funding program of NEH and the National Science Foundation (NSF) to develop and advance scientific and scholarly knowledge concerning endangered human languages.

DLI-DEL Fellowships support individuals who are junior or senior linguists, linguistic anthropologists, and sociolinguists to conduct research on one or more endangered or moribund languages. DLI-DEL Fellowships prioritize scholarly analysis and publication, including but not limited to lexicons, grammars, databases, peer-reviewed articles, and monographs. Awards also support fieldwork and other activities relevant to digital recording, documenting, and sustainable archiving of endangered languages.

**Link to Additional Information:** https://www.neh.gov/program/dli-del-fellowships

### 3. Summer Stipends, NEH

The National Endowment for the Humanities' Summer Stipends program aims to stimulate new research in the humanities and its publication. The program works to accomplish this goal by:

- Providing small awards to individuals pursuing advanced research that is of value to humanities scholars, general audiences, or both.
- Supporting projects at any stage of development, but especially early-stage research and late-stage writing in which small awards are most effective.
- Funding a wide range of individuals, including independent scholars, community college faculty, and non-

teaching staff at universities.

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Summer Stipends support continuous full-time work on a humanities project for a period of two consecutive months. NEH funds may support recipients' compensation, travel, and other costs related to the proposed scholarly research.

**Link to Additional Information:** https://www.neh.gov/grants/research/summer-stipends

## Scientific Forecasted Opportunities

### 1. Advancing Genomic Medicine Research (R21 Clinical Trial Optional), NIH

The National Human Genome Research Institute intends to issue a Notice of Funding Opportunity (NOFO) to solicit applications that stimulate innovation and advance understanding of when, where and how best to implement the use and sharing of genomic information and technologies in clinical care in all persons including populations or communities that experience health disparities, such as racial or ethnic minority groups, people with lower socioeconomic (SES) status, underserved rural communities, and sexual and gender minority groups.

**Link to Additional Information:** https://www.grants.gov/web/grants/view-opportunity.html?oppId=347663

## Proposals Accepted Anytime

1. Division of Environmental Biology, NSF
   https://www.nsf.gov/pubs/2022/nsf22541/nsf22541.pdf

2. Computational and Data-Enabled Science and Engineering in Mathematical and Statistical Sciences, NSF
   https://beta.nsf.gov/funding/opportunities/computational-and-data-enabled-science-and-engineering-mathematical-and

3. Condensed Matter and Materials Theory (CMMT), NSF
   https://www.nsf.gov/pubs/2022/nsf22610/nsf22610.htm#pgm_desc_txt

4. Division of Materials Research: Topical Materials Research Programs (DMR: TMRP), NSF
   https://www.nsf.gov/pubs/2022/nsf22609/nsf22609.htm

5. Research in the Formation of Engineers, NSF
   https://beta.nsf.gov/funding/opportunities/research-formation-engineers-rfe

6. Computer and Information Science and Engineering (CISE): Core Programs, NSF – Small Projects
   https://www.nsf.gov/pubs/2022/nsf22631/nsf22631.htm

7. Manufacturing Systems Integration (MSI), NSF
   https://beta.nsf.gov/funding/opportunities/manufacturing-systems-integration-msi

8. Cybersecurity Innovation for Cyberinfrastructure (CICI), NSF
   https://www.nsf.gov/pubs/2023/nsf23532/nsf23532.htm

9. Division of Molecular and Cellular Biosciences Core Programs (MCB), NSF
   https://www.nsf.gov/pubs/2023/nsf23548/nsf23548.htm

10. Division of Integrative Organismal Systems Core Programs, NSF
    https://www.nsf.gov/pubs/2023/nsf23547/nsf23547.htm

11. Electronics, Photonics and Magnetic Devices (EPMD), NSF
https://beta.nsf.gov/funding/opportunities/electronics-photonics-magnetic-devices-epmd-0

12. Plant Genome Research Program (PGRP), NSF
https://www.nsf.gov/pubs/2023/nsf23559/nsf23559.htm#elig

13. Communications, Circuits, and Sensing-Systems (CCSS), NSF
https://beta.nsf.gov/funding/opportunities/communications-circuits-sensing-systems-ccss-0

14. Fluid Dynamics, NSF
https://beta.nsf.gov/funding/opportunities/fluid-dynamics-2

15. Biophotonics, NSF
https://beta.nsf.gov/funding/opportunities/biophotonics-2

16. Environmental Sustainability, NSF
https://beta.nsf.gov/funding/opportunities/environmental-sustainability-2

17. Particulate and Multiphase Processes, NSF
https://beta.nsf.gov/funding/opportunities/particulate-multiphase-processes-2

18. Interfacial Engineering, NSF
https://beta.nsf.gov/funding/opportunities/interfacial-engineering-0

19. Nanoscale Interactions, NSF
https://beta.nsf.gov/funding/opportunities/nanoscale-interactions-0

20. Combustion and Fire Systems (CFS), NSF
https://new.nsf.gov/funding/opportunities/combustion-fire-systems-cfs

21. Infrastructure Innovation for Biological Research (Innovation), NSF
https://www.nsf.gov/pubs/2023/nsf23578/nsf23578.htm

22. Infrastructure Capacity for Biological Research (Capacity), NSF
https://www.nsf.gov/pubs/2023/nsf23580/nsf23580.htm

## Announcing Previous Important Funding Opportunities

1. Minority Science and Engineering Improvement Program (MSEIP), Dept. of Education
**Deadline: May 30, 2023**
https://www.govinfo.gov/content/pkg/FR-2023-03-30/pdf/2023-06581.pdf

2. Enhancing Science, Technology, EnginEering, and Math Educational Diversity (ESTEEMED) Research Education Experiences (R25 Clinical Trial Not Allowed), NIH
**Deadline: June 7, 2023**
https://grants.nih.gov/grants/guide/pa-files/PAR-23-114.html

3. Maternal Health Research Collaborative for Minority-Serving Institutions Research Centers (RCs), HRSA
**Deadline: June 12, 2023**
https://www.grants.gov/web/grants/view-opportunity.html?oppId=346217

4. Developing Hispanic-Serving Institutions Program, Dept. of Education
   **Deadline: June 13, 2023**
   https://www.govinfo.gov/content/pkg/FR-2023-04-14/pdf/2023-07904.pdf

5. Personnel Development To Improve Services and Results for Children With Disabilities—Preparation of Early Intervention and Special Education Personnel Serving Children With Disabilities Who Have High-Intensity Needs, Dept. of Education
   **Deadline: June 13, 2023**
   https://www.govinfo.gov/content/pkg/FR-2023-04-19/pdf/2023-08249.pdf

6. Digital Projects for the Public, NEH
   **Deadline: June 14, 2024**
   https://www.neh.gov/grants/public/digital-projects-the-public

7. Modeling and Simulation Program, Dept. of Education
   **Deadline: June 23, 2023**
   https://www.govinfo.gov/content/pkg/FR-2023-04-24/pdf/2023-08586.pdf

8. Centers for Research and Innovation in Science, the Environment and Society (CRISES), NSF
   **Deadline: June 26, 2023**
   https://beta.nsf.gov/funding/opportunities/centers-research-innovation-science-environment

9. Community Level Interventions to Improve Minority Health and Reduce Health Disparities (R01 - Clinical Trial Optional), NIH
   **Deadline: July 7, 2023**
   https://grants.nih.gov/grants/guide/rfa-files/RFA-MD-23-004.html

10. Young Investigator Program (YIP), Office of Naval Research
    **Deadline: July 7, 2023**
    https://www.nre.navy.mil/work-with-us/funding-opportunities/fy-2024-young-investigator-program-yip

11. Humanities Collections and Reference Resources, NEH
    **Deadline: July 18, 2023**
    https://www.neh.gov/grants/preservation/humanities-collections-and-reference-resources

12. Small Research Grant Program for the Next Generation of Researchers in AD/ADRD Research (R03 Clinical Trial Optional), NIH
    **Deadline: July 19, 2023; October 16, 2023**
    https://grants.nih.gov/grants/guide/pa-files/PAR-23-179.html

13. Division of Chemistry: Disciplinary Research Programs (CHE-DRP), NSF
    **Deadline:**
    - **CAT, CSDM-B and SYN: September 1 - September 30, 2023**
    - **CMI, ECS and MSN: October 1 - October 31, 2023**

    https://www.nsf.gov/pubs/2022/nsf22605/nsf22605.htm

14. Multidisciplinary Research Program of the University Research Initiative (MURI), Department of Defense
    **Deadline: September 8, 2023**
    https://www.grants.gov/web/grants/view-opportunity.html?oppId=346282

15. Faculty Development in geoSpace Science (FDSS), NSF
    **Deadline: September 18, 2023**
    https://www.nsf.gov/pubs/2023/nsf23577/nsf23577.htm

16. Computer and Information Science and Engineering (CISE) Research Initiation Initiative (CRII), NSF
    **Deadline: September 30, 2023**
    https://www.nsf.gov/pubs/2023/nsf23576/nsf23576.htm

17. Maximizing Investigators' Research Award (MIRA) for Early-Stage Investigators (ESI) (R35 - Clinical Trial Optional), NIH
    **Deadline: October 3, 2023; February 1, 2024**
    https://grants.nih.gov/grants/guide/pa-files/PAR-23-145.html

18. Major Research Instrumentation (MRI) Program: Instrument Acquisition or Development, NSF
    **Deadline Window Date(s): October 16, 2023 - November 15, 2023**
    https://www.nsf.gov/pubs/2023/nsf23519/nsf23519.htm

19. Research and Mentoring for Postbaccalaureates in Biological Sciences (RaMP), NSF
    **Deadline: January 18, 2024**
    https://www.nsf.gov/pubs/2023/nsf23514/nsf23514.htm

20. STEM Program, Office of Naval Research
    **Deadline: April 2, 2024**
    https://www.grants.gov/web/grants/view-opportunity.html?oppId=347274

21. Measurement Science and Engineering (MSE) Research Grant Programs, National Institute of Standards & Technology (NIST)
    **Deadline: Applications will be accepted and considered on a rolling basis as they are received.**
    https://www.grants.gov/web/grants/view-opportunity.html?oppId=347512

# Universidad de Puerto Rico

*LA MEJOR EDUCACIÓN A TU ALCANCE*

VICEPRESIDENCIA DE RECURSOS EXTERNOS
ADMINISTRACIÓN CENTRAL