



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 05/21/2021 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 or MS Teams.

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1. Disrupting Operations of Illicit Supply Networks, National Science Foundation

Application Deadline: July 28, 2021

Criminal networks that illegally traffic in everything from people and drugs to human organs, natural resources and nuclear material pose grave threats to the health, prosperity and security of our Nation. As an important example, the opioid epidemic in the United States has largely been fueled by new synthetic opioids that are primarily produced in overseas facilities and distributed to the US through intermediate countries. These illicit supply chains flourish across national boundaries, both taking advantage of and contributing to regional instability. The profits generated through these activities finance ongoing conflicts across the globe. Making use of the same communications, logistics, transportation, and financial infrastructure that enable globally integrated commercial supply chains, illicit flows are now estimated to account for 4-6% of global GDP, or roughly \$2 trillion annually. Moreover, these networks use exploitative labor, such as child labor, forced labor and human trafficking, to source and produce goods and services that contribute to both illicit and legal commercial supply chains. The Disrupting Operations of Illicit Supply Networks (D-ISN) Solicitation supports research projects that take a systems approach to advance fundamental understanding of how networks that traffic in illicit or illicitly-produced goods and services operate, leading to technological breakthroughs that bolster our ability to disable these networks. Major goals of NSF's D-ISN Solicitation include:

- Improve understanding of the operations of illicit supply networks and strengthen the ability to detect, disrupt, and dismantle them.
- Support research on the illicit supply networks that fuel the national opioid epidemic
- Enhance research communities that effectively integrate operational, computational, social, cultural and economic expertise to provide methods and strategies to combat this complex and elusive global security challenge.
- Catalyze game-changing technological innovations that can improve discovery and traceability of illicitly sourced product inputs.
- Provide research outcomes that inform U.S. national security, law enforcement and economic development needs and policies.

Proposals responding to this solicitation must be submitted to the Directorate for Engineering. Once received, however, the proposals will be managed by a cross-disciplinary team of NSF Program Directors. This solicitation is for a two-year program to support the research needed to inform the economy, security, and resilience of the Nation and the world in responding to the global threat posed by illicit supply networks. The solicitation calls for fundamental research across engineering, computer and information science, and social sciences. Research proposals should address at least one or more of the five focus domain areas listed below.

D-ISN will support far-reaching, creative proposals for fundamental research that take convergent approaches to scientific, engineering and computational challenges related to disrupting operations of illicit supply networks. Proposals from teams of three or more PI and co-PIs or a PI, co-PI and Senior Personnel will be considered. Proposals with fewer PI/co-PIs/Senior Personnel are not permitted and will be returned without review. Project teams must demonstrate a systems-focus with clear evidence of appropriate expertise within the investigative team. Successful projects will include expertise in the trafficking domain and in at least two, and preferably three, of the fields of engineering, computer and information science, and social science. In addition, teams with access to relevant data sources, through partnerships with existing governmental agencies, non-governmental organizations, multilateral organizations, law enforcement entities, and private companies are particularly encouraged.

The project must demonstrate domain knowledge in at least one, and preferably more than one, of the following five domain focus areas:

- Human trafficking, including sex and labor trafficking, and specific agricultural, manufacturing and other supply chains known to use labor exploitation. Illicit drug trafficking, especially natural and synthetic opioids.
- Natural resources trafficking, including wildlife, minerals, fishing, logging.
- Counterfeit and pirated goods trafficking, including falsified pharmaceuticals and safety-critical products.
- Trafficking in virtual products, e.g., credit cards, online identities.

Of particular interest is research that addresses connections between these domains, for example, in understanding the intersectionality between forced labor and illegal fishing, wildlife trafficking and drug trafficking, and the contributions of exploited adult and child labor entering global commercial supply chains. Educational activities that involve graduate and undergraduate students in this line of inquiry, and expose them to multi-disciplinary research activities, are of particular interest since these will help build a research community capable of addressing complex societal challenges for the future. Research teams are strongly encouraged to include components that integrate research and educational activities to advance engineering and scientific leadership in this space.

Link to Additional Information: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf21582

2. OVC FY 2021 Advancing Hospital-Based Victim Services, Department of Justice, Office for Victims of Crime

Application Deadline: June 28, 2021

The Department of Justice is committed to advancing work that promotes civil rights, increases access to justice, supports crime victims, protects the public from crime and evolving threats, and builds trust between law enforcement and the community. The Office for Victims of Crime (OVC) is committed to enhancing the nation's capacity to assist crime victims and provide leadership in changing attitudes, policies, and practices to promote justice and healing for all victims of crime. This solicitation seeks to improve linkages between the victim services field and hospitals and other medical facilities that increase support for victims of crime, improve victim outcomes, and reduce chances of further victimization.

Receiving culturally relevant, trauma-informed services for crime victims is an important step in every victim's healing process. According to the [National Crime Victimization Survey](#) (NCVS), only 11 percent of victims of serious violence who report their victimization ever access help from a victim services agency. Increasing the number of crime victims connected to the supports necessary to aid their healing is paramount. This connection is especially important for groups that experience high rates of victimization. In recent years, a rise in gun violence has disproportionately impacted underserved communities, particularly communities of color, as noted in the Centers for Disease Control and Prevention's [Fatal Injury Reports](#). OVC remains committed to supporting efforts to diversify and expand existing strategies for providing victim assistance and establishing vital linkages to other fields that touch the lives of those impacted by crime - particularly those victims less likely to access services through the traditional support infrastructure.

In an effort to expand the use of hospitals and other medical facilities as an entry point to increase support for victims of crime, improve their outcomes, and reduce the risk for repeat victimization, this solicitation will fund up to three demonstration sites to expand existing hospital-based programs that support crime victims. Additionally, the solicitation will fund one applicant to provide comprehensive technical assistance (TA) to the demonstration sites and develop TA resources and tools to support this effort.

Goals, Objectives, Deliverables, and Timeline

The goal of this solicitation is to support evidence-based models, practices, and policies that improve partnerships between the victim services field and hospitals and other medical facilities to increase support for crime victims. The objective of these partnerships is to provide comprehensive, coordinated, trauma-informed services and support that address the full range of victim needs.

Category 1: Demonstration Sites - This solicitation will fund up to three demonstration sites that operate hospital-based/affiliated programs to support crime victims using evidence-based models and practices with victim-centered approaches. The demonstration sites will develop plans to provide comprehensive, victim-centered services that aid in the survivor's physical and emotional recovery. OVC encourages a focus on responding to community violence and victims of gun violence, but potential sites may consider using hospital-based/affiliated services and other related approaches to support multiple types of victimization in their proposed projects. Demonstration project applicants should include detailed descriptions of the specific approach they will follow to reach the specified type of victims and explain how the approach will be used to improve victim outcomes. Applicants should also include a detailed explanation of how their program partners will assist in meeting the complex needs of the victims served.

All services provided as part of this program must: respect the decision-making independence of crime victims; support victim self-sufficiency; and promote victims' feelings of increased safety and well-being. Collaborations with victim-serving organizations will be an important element of this model, as programs should also incorporate plans to follow up with discharged victims and their families to assist with their long-term recovery. Successful applicants will include one or more hospitals or medical facilities within the area, departments of health, or relevant victim-serving organizations to implement a model most appropriate in that jurisdiction and most capable of filling an unmet need.

Category 2: Technical Assistance Project - This solicitation will be used to select one entity to provide comprehensive TA to the demonstration sites and develop TA tools and resources to support the initiative. The successful applicant will be expected to deliver an array of TA resources and guidance that support the demonstration sites and the overall initiative. The comprehensive TA resources and support could include, but is not limited to: (1) providing diverse subject matter expertise and innovative assistance to the demonstration sites to ensure they develop solid plans to support crime victims, achieve their individual goals and objectives, and sustain their efforts; (2) working with sites to engage partners and strengthen their project plans; (3) identifying and providing TA that is comprehensive, coordinated, appropriate, trauma-informed, and data driven to reach and assist all victims; and (4) facilitating peer learning exchanges among the sites and other organizations engaged in similar work to promote problem-solving and innovation through the exchange of ideas and information.

The successful applicant will be required to coordinate with other OVC-funded TA providers, such as OVC's Training and Technical Assistance Center and other entities working with related projects and partners. Protocols for coordinating with these organizations must be established to ensure consistent messaging around relevant topic areas, maximize effectiveness of TA, and avoid duplication of efforts.

Link to Additional Information: <https://ovc.ojp.gov/funding/opportunities/o-ovc-2021-16001>

3. EPSCoR Research Infrastructure Improvement Program Track-1, National Science Foundation

Application Deadline: August 16, 2021

The Established Program to Stimulate Competitive Research (EPSCoR) is designed to fulfill the mandate of the National Science Foundation (NSF) to promote scientific progress nationwide. Jurisdictions are eligible to participate in the NSF EPSCoR Research Infrastructure Improvement (RII) Program based on their level of total NSF support over their most recent five years (see RII eligibility). Through this program, NSF facilitates the establishment of partnerships among academic institutions and organizations in governmental, non-profit, and commercial or industrial sectors that are designed to effect sustainable improvements in a jurisdiction's research infrastructure, Research and Development (R&D) capacity, and hence, its R&D competitiveness. Research Infrastructure Improvement Track-1 (RII Track-1) awards provide up to \$20 million total over five years to support research-driven improvements to jurisdictions' physical and cyber infrastructure and human capital development in topical areas selected by the jurisdiction's EPSCoR steering committee as having the best potential to improve future R&D competitiveness. The project's research and capacity-building activities must align with the specific research priorities identified in the submitting jurisdiction's approved Science and Technology (S&T) Plan. Refer to Sections II and V.A.4.1 below for more information on alignment of the research and capacity-building activities of the project with the science, technology, engineering and math (STEM) research priorities of the S&T Plan.

The mission of EPSCoR is to advance excellence in science and engineering research and education to achieve sustainable increases in research, education, and training capacity and competitiveness that will enable EPSCoR jurisdictions to have increased engagement in areas supported by NSF. EPSCoR goals are to:

- Catalyze the development of research capabilities and the creation of new knowledge that expands jurisdictions' contributions to scientific discovery, innovation, learning, and knowledge-based prosperity;
- Establish sustainable Science, Technology, Engineering, and Mathematics (STEM) education, training, and professional development pathways that advance jurisdiction-identified research areas and workforce development;
- Broaden direct participation of diverse individuals, institutions, and organizations in the project's science and engineering research and education initiatives;
- Effect sustainable engagement of project participants and partners, the jurisdiction, the national research community, and the general public through data-sharing, communication, outreach, and dissemination; and
- Impact research, education, and economic development beyond the project at academic, government, and private sector levels.

Successful RII Track-1 proposals should establish a vision for how the planned effort will substantively enhance the R&D competitiveness of the jurisdiction's colleges and universities. However, a compelling vision alone is insufficient; successful proposals must also include detailed plans for how the vision will be realized by describing how the proposal's stated goals and objectives will be fully achieved. Ultimately, the expectation is that the EPSCoR RII Track-1 project will improve a jurisdiction's R&D competitiveness in the targeted area(s) at the national or regional level. This improved competitiveness is expected to lead to increased success in securing additional non-EPSCoR research support, more effective STEM education and workforce development opportunities that engage diverse audiences across the jurisdiction, and stronger partnerships at the individual and institutional levels both within the jurisdiction and beyond.

An RII Track-1 project's success is rooted in its responsiveness to the particular needs and priorities of the submitting jurisdiction. To ensure a strong foundation, the proposal must have the support of the submitting jurisdiction's EPSCoR steering committee. The steering committee, working closely with diverse jurisdictional leaders in academia, government, and the private sector, is expected to work towards identifying R&D improvement strategies that will advance the development of nationally competitive capabilities in jurisdictional S&T priority areas. In preparation for submitting a proposal, the jurisdictional EPSCoR steering committee is expected to have conducted a comprehensive analysis of the jurisdiction's R&D strengths, the opportunities that exist to further develop R&D capacity, and the challenges that must be overcome to take advantage of those opportunities. The steering committee will have evaluated the maturity of existing R&D efforts in the jurisdiction as well as the potential of new research directions that align with jurisdictional needs.

Link to Additional Information: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf21586

4. Consortium for Innovative HIV/AIDS Vaccine and Cure Research, Department of Health and Human Services, National Institutes of Health

Application Deadline: August 4, 2021

The purpose of this funding opportunity announcement (FOA) is to support consortia to conduct research toward the prevention and cure of HIV. The Consortium for Innovative HIV Vaccine and Cure Research will establish a collaborative and integrated research program built around two areas of scientific focus: identification of the correlates and the mechanism(s) of protection of preventive vaccine(s) and the use of vaccines or other immune modalities in advancing cure research. Preclinical studies in nonhuman primate (NHP) models will be supported to investigate the mechanism(s), by which efficacious AIDS vaccines protect NHPs from initial infection or establishment of systemic infection, and will incorporate vaccines or other immune interventions into cure strategies in SIV or SHIV-infected NHPs with the objective of eliminating virus reservoirs or establishing elite control of virus replication. Research findings can be applied to improve HIV vaccines and cure strategies and further advancement toward evaluation in human clinical trials.

Research Objectives and Scope

The research objectives of this FOA are two-fold: (1) to characterize vaccine-induced responses shown to reduce the rate of acquisition or prevent establishment of infection after mucosal challenge of NHPs with SIV or SHIV in order to identify the correlates of protection and understand the underlying mechanisms of that protection, and (2) to develop immunological interventions, including vaccines, immunotherapies, as well as combination strategies, with the goal of eliminating viral reservoirs (cure) or generating antiviral responses that control virus replication in the absence of antiretroviral drug therapy. Vaccine research proposed for this initiative must employ well-developed SIV/SHIV NHP models using a mucosal route of exposure. Although the main emphasis of research should be based on models using intravaginal transmission, additional studies using intrarectal and/or penile infection models may be included. Vaccine protection efforts must include a vaccine previously demonstrated to provide at least partial protection.

Cure research approaches must employ NHP models where the SIV/SHIV load can be fully suppressed with the proposed combination antiretroviral therapy (cART) regimen and will rebound, in control animals, after discontinuation of cART, to near pre-cART levels. Only in rare circumstances when the intervention is administered very early and is intended to modulate the viral setpoint, can the lack of cART administration be justified.

It is expected that state-of-the-art, well-developed assays will be used to quantify the viral load and viral reservoirs, especially in tissues, and to assess immune responses. Assays may be improved or refined but must not be developed de novo to accomplish the research aims.

Examples of research intended to identify mechanisms of vaccine protection include, but are not limited to, the study of:

- Basic biology of early events after challenge, in the context of vaccination
 - Crosstalk between innate and adaptive immunity at mucosal sites
 - Host factors (e.g., FcR genotypes)
 - Innate responses that can be elicited upon subsequent infection
- Early sites of infection and extent of vaccine inhibition of infection by:
 - Blocking viral attachment and infection
 - Blocking local virus spread
 - Mobilization of cells to the mucosal site of infection
 - Recruitment and/or mechanisms of protection from infection of new target cells
 - Inhibition of virus spread to draining lymph nodes and secondary lymphoid organs
 - Characteristics of break-through viruses
- Detailed characterization of viral-specific, and/or innate immune responses generated by vaccines demonstrating protection from SIV/SHIV infection, for example:
 - Cellular immune responses in blood; identification of the viral epitopes targeted
 - Functional antibodies in blood or mucosal tissue
 - Cellular immune responses - CTLs, NK cells, monocytes, etc. - in mucosal tissues and lymph nodes
 - Contribution of adjuvant effects to protection
 - Transcriptomic analysis of peripheral and mucosal cells

Examples of cure research include, but are not limited to, the study of:

- Immune-based strategies that enhance clearance or limit replenishment of reservoirs
 - Therapeutic use of vaccines +/- immunomodulators
 - Target cell depletions +/- immunomodulators

- Engineered T-cells, chimeric antigen receptors (CARs)
- Harnessing the power of effector cells, cytotoxic T lymphocytes, and regulatory pathways for immunotherapy
- Antibodies or antibody-like molecules as recombinant proteins or delivered as genes by expression vectors
- Cytokines and other innate immune strategies
- Innovative delivery strategies with specificity for viral reservoirs
 - Targeted delivery to viral sanctuary sites
 - Improved viral vector deliveries
 - Includes highly sensitive imaging methods of the delivered therapeutic agents to HIV reservoirs
- Combinations of immune-based strategies with cART and other interventions

Link to Additional Information: <http://grants.nih.gov/grants/guide/rfa-files/RFA-AI-21-039.html>

5. NIH Directors New Innovator Award Program, Department of Health and Human Services, National Institutes of Health

Application Deadline: August 20, 2021

The NIH Directors New Innovator Award Program supports early-stage investigators of exceptional creativity who propose highly innovative research projects with the potential to produce a major impact on broad, important problems relevant to the mission of NIH. For the program to support the best possible researchers and research, applications are sought which reflect the full diversity of the research workforce. Individuals from diverse backgrounds and from the full spectrum of eligible institutions in all geographic locations are strongly encouraged to apply to this Funding Opportunity Announcement. In addition, applications in all topics relevant to the broad mission of NIH are welcome, including, but not limited to, topics in the behavioral, social, biomedical, applied, and formal sciences and topics that may involve basic, translational, or clinical research. The NIH Director's New Innovator Award Program complements ongoing efforts by NIH and its Institutes and Centers to fund early-stage investigators through R01 grants, which continue to be the major sources of NIH support for early-stage investigators. The NIH Directors New Innovator Award Program is a component of the High-Risk, High-Reward Research Program of the NIH Common Fund. The primary requirements are that the research be highly innovative and have the potential for unusually broad impact.

Investigators who were not selected for an award in prior years may submit applications this year as long as they retain eligibility requirements (including ESI status) described in this FOA; however, all applications must be submitted as “new” applications regardless of any previous submission to the program. No reference to any prior application may be included. Any reference to a prior application may be grounds for administrative withdrawal.

The NIH Director's New Innovator Award is part of the [High-Risk, High-Reward Research \(HRHR\) Program](#) funded through the [NIH Common Fund](#), which supports cross-cutting programs that are expected to have exceptionally high impact. All Common Fund initiatives invite investigators to develop bold, innovative, and often risky approaches to address problems that may seem intractable or to seize new opportunities that offer the potential for rapid progress.

- Applicants must meet the definition of an Early-Stage Investigator (ESI) at the time of submission application. An ESI is a new investigator (defined as a PD/PI who has not competed successfully for a significant NIH independent research award) who is within 10 years of completing his/her terminal research degree or end of post-graduate clinical training. See the Office of Extramural Research website for [a complete list](#) of NIH awards that do not disqualify a PD/PI as a new investigator and for [frequently asked questions](#) about the NIH Early Stage Investigator (ESI) Policy.
- An extension to the 10-year period may be granted under certain circumstances (e.g., childbirth, family care responsibilities, clinical loan repayment requirements, disability or illness, natural or other disaster, etc.). An [online video tutorial](#) is available for more information. It may take several weeks for the review process for the request, so applicants should plan accordingly. Note: If an applicant is not identified as an ESI in the eRA Commons, it may result in the application not being reviewed. Applicants are responsible for reviewing and/or updating their degree information in their eRA Commons account in a timely fashion.
- Applicants must hold an independent research position at a domestic (U.S.) institution by September 1, 2022. For this FOA, an “independent research position” is a position that automatically confers eligibility to the investigator (based on institutional policy) to apply for R01 grants with appropriate institutional commitment of facilities for the conduct of the proposed research. Investigators still in training or mentored status (such as postdoctoral fellows) are not eligible to apply unless they have a written commitment from the institution stating they will be in an independent faculty position by September 1, 2022. The commitment is certified by the institution's submission of the application.
- Applicants may submit or have an NIH R01 or other equivalent grant application pending concurrently with their NIH Director’s New Innovator Award application if it does not overlap substantially with their New Innovator Award application.

However, if that pending grant becomes active prior to the NIH Director's New Innovator Award, the applicant is no longer eligible to receive the New Innovator Award.

- Awardees are required to commit at least three person-months (25%) of their research effort each year to activities supported by the New Innovator Award.

Link to Additional Information: <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-21-016.html>

6. BJA FY 21 Postconviction Testing of DNA Evidence, Department of Justice, Bureau of Justice Assistance

Application Deadline: June 22, 2021

The Department of Justice is committed to advancing work that promotes civil rights, increases access to justice, supports crime victims, protects the public from crime and evolving threats, and builds trust between law enforcement and the community. BJA seeks proposals for funding to assist in defraying the costs associated with postconviction DNA testing in cases of violent felony offenses (as defined by state law) in which actual innocence might be demonstrated. Funds may be used to identify and review such postconviction cases and to locate and analyze associated biological evidence.

Under this program, BJA provides funding to help defray the costs (e.g., additional personnel, overtime, testing supplies and services) associated with postconviction DNA testing for violent felony offenses (as defined by state law) in which actual innocence might be demonstrated. Funds may be used to review suitable postconviction cases and to locate and analyze biological evidence. Only a limited portion of funds may be used for case identification activities.

Goals, Objectives, Deliverables, and Timeline

The goal of this program is to assist states and units of local government with postconviction DNA testing in cases of violent felony offenses where actual innocence might be demonstrated.

Objectives - Program objectives with respect to the target number of cases to be reviewed and other concrete objectives must be outlined in the proposal. Funded projects are expected to implement some aspect of each of the following activities, except for case identification, which is not mandatory:

1. Identify potential postconviction DNA testing cases. A maximum of 15 percent of the proposed budget may be dedicated to case identification activities.
2. Review appropriate postconviction cases to identify those in which DNA testing could prove the actual innocence of a person convicted of a violent felony offense as defined by state law.
3. Locate biological evidence associated with such postconviction cases.
4. Perform DNA analysis of appropriate biological evidence and report and review DNA test results.

Link to Additional Information: <https://bja.ojp.gov/funding/opportunities/o-bja-2021-104003>

7. NSF Program on Fairness in Artificial Intelligence in Collaboration with Amazon, National Science Foundation

Application Deadline: August 3, 2021

NSF has long supported transformative research in artificial intelligence (AI) and machine learning (ML). The resulting innovations offer new levels of economic opportunity and growth, safety and security, and health and wellness, intended to be shared across all segments of society. Broad societal acceptance of large-scale deployments of AI systems relies critically on their trustworthiness which, in turn, depends on the ability to assess and demonstrate the fairness (including broad accessibility and utility), transparency, explainability, impartiality, inclusivity, and accountability of such systems. For example, the behavior of algorithms for face recognition, speech, and language, especially when integrated into decision support systems applied across different segments of society, would benefit from new foundational research in fairness of AI systems.

NSF and Amazon are partnering to jointly support computational research focused on fairness in AI, with the goal of contributing to trustworthy AI systems that are readily accepted and deployed to tackle grand challenges facing society. Specific topics of interest include, but are not limited to transparency, explainability, accountability, inclusivity, potential adverse biases (including social biases) and effects, mitigation strategies, algorithmic advances, fairness objectives, validation of fairness, participatory design, and advances in broad accessibility and utility. Funded projects will enable broadened acceptance of AI systems, helping the U.S. to

further capitalize on the potential of AI technologies. Although Amazon provides partial funding for this program, it will not play a role in the selection of proposals for award.

Advancing AI is a highly interdisciplinary endeavor drawing on fields such as computer science, information science, engineering, statistics, mathematics, cognitive science, psychology, sociology, decision science, and **economics**. Considerations of practice, often derived from the social, behavioral, and economic sciences, can inform new directions for computational science to better realize the benefits of algorithmic and data fairness. As such, NSF and Amazon expect these varied perspectives to be critical for the study of fairness in AI. NSF's ability to bring together multiple scientific disciplines uniquely positions the agency in this collaboration, while building AI that is fair and unbiased is an important aspect of Amazon's AI initiatives. This program supports the conduct of fundamental computer science research into theories, techniques, and methodologies that go well beyond today's capabilities and are motivated by challenges and requirements in real systems.

NSF's mission calls for the broadening of opportunities and expanding participation of groups, institutions, and geographic regions that are underrepresented in STEM disciplines, which is essential to the health and vitality of science and engineering. Consistent with this principle of diversity and particularly suitable for the thrust of this program, NSF and Amazon encourage proposals (either independently or in multi-institution collaborations) from investigators at institutions that serve groups historically underrepresented in STEM disciplines.

This program will support approaches to AI fundamentals, system development and deployment that ensure benefits are broadly available across all segments of society. To achieve this objective, technologies need to be accepted across groups that differ by factors such as sociocultural identities, age, gender, health status, geography, income, and education. What individuals or groups consider acceptable, and how individuals or groups evaluate trustworthiness, are important for design, evaluation, and deployment. More broadly, methods to assure fairness need to be developed so that, when such methods are applied, they ensure acceptance, trustworthiness, and lack of adverse biases, including social bias.

AI, including ML, raises significant novel challenges around ensuring non-discrimination, due process, and explainability of decision making. Explaining the inference processes of modern ML approaches and algorithms can contribute to a better understanding of the mechanisms that affect fairness, and trust in the algorithms. Likewise, biases introduced by data sampling, data selection, algorithm design, and optimization criteria affect fairness. Hence, research that advances understanding of these factors is encouraged.

This program will support research in a broad array of topics responsive to the overall goals, including but not limited to:

- Designing fairness into AI systems;
- Transparency, explainability, inclusivity, and accountability in AI systems;
- Factors that affect algorithmic trustworthiness;
- Ethical decision-support and decision-making systems;
- Detecting and ameliorating, or designing to prevent, biases in data and algorithms; and
- Ensuring that AI systems are robustly impartial and broadly inclusive.

Specific technical contributions that address programmatic goals might include, but are not limited to:

- Algorithms and representations that can quickly and appropriately adjust to differences in training and test data arising from different population subgroups;
- Theoretical limitations on fairness, for example, proving algorithmically that certain fairness criteria are mutually inconsistent;
- Device interface design approaches that improve human interpretability of technologies and outcomes;
- Approaches that design-in socio-cultural considerations a priori, thereby enhancing trustworthiness and broad accessibility and utility for emerging AI and ML advances;
- Algorithmic design choices impacting fairness outcomes in speech, vision, and language applications;
- Metrics and methods for designing, piloting, and evaluating systems that mitigate against adverse biases, including social bias, and ensure fairness, including the use of human-machine collaboration and decision support; and
- Statistical methods for detecting bias in systems as they are operating.

Link to Additional Information: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf21585

8. Geoinformatics, National Science Foundation

Application Deadline: August 16, 2021

The Division of Earth Sciences (EAR) will consider proposals for the development of cyberinfrastructure (CI) for the Earth Sciences (Geoinformatics). EAR-supported geoinformatics opportunities will fit into three tracks: Catalytic Track, Facility Track, and Sustainability Track. These tracks broadly support the lifecycle of geoinformatics resource development, from pilots (Catalytic) to broad implementation (Facility) to sunseting and long-term sustainability (Sustainability).

This solicitation supports efforts to develop data resources, software tools, and computational infrastructure needed to facilitate studies of the structure, dynamics, and evolution of the Earth through time, as well as the processes that act upon and within the Earth from the surface to the core. Successful projects will develop community cyberinfrastructure to advance research and education goals in Earth Science. To serve geoinformatics projects at all stages of cyberinfrastructure development, the Geoinformatics solicitation includes multiple tracks for piloting, broadening, and sustaining cyberinfrastructure resources that serve Earth Science. The Geoinformatics Program encourages proposals that include and foster engagement with people and communities historically underrepresented in Earth Science, such as women, persons with disabilities, and underrepresented groups, those from geographically underrepresented areas in science, technology, engineering, and mathematics, and veterans of the U.S. Armed Forces. The Program is also interested in activities focused on justice, equity, diversity, and inclusion (JEDI) that are tightly integrated with the development of cyberinfrastructure.

The tracks in the Geoinformatics Program are designed to support the lifecycle of typical cyberinfrastructure development in three distinct phases. The development phase is supported in the Catalytic Track; the implementation and operation phase is supported in the Facility Track; and the preservation and sustainability phase is supported in the Sustainability Track. These three tracks are defined in the Program Description below.

This Geoinformatics Program Solicitation comprises three tracks with complementary focuses. None of these tracks will support hardware development or major hardware purchases.

- The **Catalytic Track** will focus on up to 3-year pilot geoinformatics development efforts that are intended to serve Earth Science research. This could be achieved through development of new community platforms (databases or modeling resources) or tools to be used by the research community, not a specific research group.
- The **Facility Track** will focus on implementation and operation of a CI resource relied upon by one or more Earth Science communities to address science questions. This may be achieved through operation of a community platform for Earth Science data analysis, visualization, and curation and/or shared community software and must include associated training, outreach, and engagement efforts. To ensure appropriate management and oversight, Facility Track proposals must clearly describe expected management roles, a timeline of work, and a budget breakdown across major activities (see "Essential Elements" below for details). Projects are intended to be 3-5 years in duration per award. Facility Track projects may be supported by the Geoinformatics program for no more than 10 years. Because of the importance of Facility Track projects to a broad range of Earth Science communities, proposers are strongly encouraged to contact the Program Officer(s) listed in this solicitation to discuss proposal plans and expected approaches to project management.
- The **Sustainability Track** will focus on development and implementation of sustainable funding models to preserve data and software products of value to Earth Science research. This may be achieved in a variety of ways, including, but not limited to, implementing a new sustainable operating plan for an existing resource, a federation of resources, or a merger into an institutional or other long-term resource. Projects in this track will demonstrate a reduction in NSF support over time. The emphasis is on preservation of valuable data and software products rather than on continuation of CI platforms or project teams themselves. These awards are intended to be up to 3 years in duration.

Link to Additional Information: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf21583

9. Head Start University Partnerships: Building the Evidence Base for ECE Workforce Well-Being, Department of Health and Human Services, Administration for Children and Families - OPRE

Application Deadline: July 6, 2021

OPRE intends to award up to eight cooperative agreements under the HSUP: Building the Evidence Base for ECE Workforce Well-Being FOA to support projects that will contribute to the knowledge base regarding the individual, program, and community factors that promote the well-being of HS and/or EHS education staff, including rigorous evaluation of well-being improvement approaches

(e.g., interventions, models). Results of these studies are expected to provide valuable information that can help guide HS programs in their decisions regarding strategies for improving education staff well-being. The first year of the grant will address adaptation and refinement of the approach(es) for HS programs, and collaboration with fellow HSUP grantees to develop common conceptual framework(s) and coordinated measurement plans.

The goal of these Head Start Partnership Grants is to develop the knowledge base regarding factors associated with Head Start (HS)/Early Head Start (EHS) workforce well-being and to complete rigorous evaluations of approaches expected to improve HS and/or EHS workforce well-being. The workforce to be examined is HS and/or EHS educational staff (e.g., teachers, assistant teachers). Proposed approaches should be feasible, sustainable, and replicable in HS and/or EHS settings. Well-being constructs proposed by applicants may include secondary trauma, autonomy, decision-making, self-efficacy, health/mental health, job-related stress, or work satisfaction.

The targeted workforce well-being construct(s) should be linked in the literature to workforce retention, continuity of care, teacher-child interactions, or other markers associated with quality and child/family outcomes in ECE settings. Projects of interest to ACF will utilize an equity lens in their approach to this work. Projects will be expected to participate in a consortium of grantees, meeting annually and communicating regularly to share lessons learned, identifying opportunities for collaborative analyses, and developing collective expertise and resources to be shared with the field at large. The grantees will collaborate on measures, conceptual framework(s) development, and operational definitions to ensure that the results of their projects improve understanding of workforce well-being in HS and/or EHS.

The projects will also collaborate to explore potential mediators and moderators of workforce well-being (e.g., community, environmental, and organizational factors). Each grantee will adapt or refine a workforce well-being approach or approaches to be rigorously evaluated in HS and/or EHS settings. ACF is considering grant awards for \$250,000 to \$500,000 dollars of funding per budget year for up to five years. The first one-year budget period of the project will be utilized for adapting, refining, and piloting approaches, and developing and refining a conceptual framework and collaborative measurement plan across the projects. Funding is subject to availability of funds and the best interest of the Federal government. For more information about OPRE, please go to <http://www.acf.hhs.gov/programs/opre/index.html>. If ACF publishes this funding opportunity requesting applications, the complete FOA will provide additional details, including the final constructs of interest and expectations for the grantees. Applicant organizations are expected to apply on behalf of researchers who hold doctorate or equivalent degrees in their respective fields, conduct research as a primary professional responsibility, and have been first or second author on publications in peer-reviewed research journals. Applicant organizations are expected to have a demonstrated partnership with one or more Head Start programs, as evidenced by signed letters of support from (a) partnering Head Start programs, indicating that they have entered into research partnerships with the applicant.

The overall expectation of this HSUP grant program is to contribute to the knowledge base regarding the role that HS and/or EHS can play in promoting education staff well-being.

The specific goals and expectations are:

Goal 1. To identify and evaluate promising approaches to support education staff well-being within the context of Head Start.

Projects funded through this grant program will evaluate innovative approaches aimed at improving the well-being of education staff (e.g., teachers, assistant teachers). Grantees will target well-being constructs that are linked in existing research to classroom practices, teacher-child relationships, and other contributors to high-quality learning environments, which, in turn, are associated with children's successful development and learning.

Goal 2. To encourage researchers to enter into mutually beneficial partnerships with HS programs to conduct research that informs HS at both the federal and local perspectives. Research sponsored through HS funding is intended to provide valuable information that can guide program improvement, as well as guide the broader field of early childhood programming and early childhood development. The HSUP grant program specifically supports research projects planned and carried out by academic researchers in close collaboration with HS or EHS programs.

Goal 3. To encourage active communication, networking, and interdisciplinary collaboration among HS and early childhood researchers, technical assistance providers, practitioners, and policymakers. To improve the capacity of the individual projects, grantees will participate in a consortium of HSUP grantees, led by OPRE staff. Grantees will meet and communicate regularly with federal staff and other grantees to share lessons learned, identify opportunities for collaborative analyses, and develop collective expertise and resources to be shared with the field at large.

Link to Additional Information: <https://ami.grantsolutions.gov/HHS-2021-ACF-OPRE-YR-1967>

10. Research Experiences for Teachers Sites in Biological Sciences, National Science Foundation

Application Deadline: August 2, 2021

The National Science Foundation's Directorate for Biological Sciences (BIO) will support up to 10 awards annually to enable active research by cohorts of middle school teachers, high school teachers and/or community college faculty. Research Experiences for Teachers Sites (RET Sites; RETS) will be based at institutions of higher learning or other non-profit organizations in the U.S. that conduct educational and research activities. RETS with a focus on Biological Sciences (BIORETS) will include research projects in fields that are supported by the Directorate for Biological Sciences. BIORETS may be based in a single discipline or department or may offer interdisciplinary or multi-department research opportunities with a coherent intellectual theme. An important goal of the program is to increase the participation of underrepresented groups in biological research and those from geographically underrepresented areas in science, technology, engineering, and mathematics (STEM). Proposals are strongly encouraged to involve members of these groups both as participants and as mentors. BIORETS awards are expected to leverage the teachers' research experiences for curriculum development, with the goal of enriching their classroom teaching practices and inspiring a broad swath of students to consider higher education and careers in STEM. Teachers supported with NSF funds in BIORETS projects must be U.S. citizens, U.S. nationals, or permanent residents of the United States.

Research experience is widely accepted as an effective mechanism for promoting engagement, preparation, and retention of individuals in careers in STEM. NSF recognizes the pivotal role teachers play in igniting their students' interest in STEM and has a long history of enabling teachers to engage in research through RET opportunities. RETs are often offered as supplements to individual NSF research grants and support participation of one to a few teachers in these projects. RET Site awards are mechanisms to enable a more expansive and sustained engagement of cohorts of teachers in research and curriculum development with the goal of enriching their classroom teaching practices and thereby inspiring a broad swath of students to consider higher education and careers in STEM.

The BIORETS program seeks to extend research opportunities to groups of teachers in fields that are supported by the Directorate for Biological Sciences. The major goals are to enhance teachers' science literacy through personal experience with scientific thinking and the excitement of discovery, and to create mechanisms whereby teachers develop collaborative relationships with each other and with partners from the host institution to advance learning. The research experiences are intended to be translated into curricular changes that have long-term impact on science education and encourage students to enter STEM-related professions.

An equally important goal of the BIORETS program is to increase the participation of underrepresented groups in biological research and education (see, for example, [1][2]) and those from geographically underrepresented areas in STEM. Local, community-based research opportunities may be particularly effective at broadening participation in STEM. Proposals submitted to this solicitation are strongly encouraged to involve PIs, co-PIs, postdoctoral fellows, students, and teachers who are members of such groups, as well as teachers who serve in school districts with high proportions of students in such groups. Proposers are also encouraged to consider involving veterans of the U.S. Armed Forces as part of NSF's broader effort to promote veteran involvement in STEM research and education.

Research and Professional Development Experience for Teacher Participants. A BIORETS project should provide a cohort of at least 8-10 middle school, high school, and/or community college STEM teachers (collectively referred to as "teachers" in the remainder of this document) with immersive, authentic research experiences in the biological sciences (as defined above) over a period of at least six weeks, typically during the summer. In cases where access to resources, e.g., specialized equipment or locations, is time-limited, research projects of a shorter duration may be proposed with appropriate justification and assurance of a quality learning experience. Proposers are welcome to incorporate approaches that make use of cyberinfrastructure or other advanced technologies that facilitate research, learning and collaboration over distances ("virtual research projects"). Leveraging other resources in the community, for example through partnerships with local or regional industry, is encouraged as well.

Research Environment. Proposals for BIORETS projects must be submitted by institutions that conduct research in biological science discipline(s). The BIORETS project must demonstrate substantive intellectual engagement of biological sciences faculty and other personnel who are actively involved in research and teaching. The principal investigator will serve as the intellectual leader for the project, taking primary responsibility for providing the teachers with meaningful research experiences and learning opportunities during the summer and academic year. The BIORETS project may involve a variety of faculty, staff, and students as collaborators and in supporting roles. Researchers at different career stages, including established investigators, must be involved in mentoring the teachers. Proposals should describe the mentors' experience and include plans for training them to support the summer research and follow-on academic-year activities.

Link to Additional Information: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf21584

11. FY 2021 Strategies to Support Children Exposed to Violence, Department of Justice, Office of Juvenile Justice Delinquency Prevention

Application Deadline: June 22, 2021

The Department of Justice is committed to advancing work that promotes civil rights, increases access to justice, supports crime victims, protects the public from crime and evolving threats, and builds trust between law enforcement and the community. This solicitation provides funding for communities to develop and provide support services for children exposed to violence as well as training and technical assistance to child and family-serving organizations to help them better recognize and help families at risk for violence. The overall goal of the program is to build the capacity of families and communities to help children exposed to violence.

Nearly two-thirds of children in the United States have been exposed to violence in their homes, schools, or communities. Violence in the community can prevent children from feeling safe in their own schools and neighborhoods. Such exposure can cause them significant physical, mental, and emotional harm, with long-term effects that can last well into adulthood. Exposure to violence can limit children's potential and health, and increase their likelihood of becoming involved in the juvenile or criminal justice system. In order to address this exposure, this solicitation will primarily focus on the prevention of exposure to violence and early intervention to support children and families who are impacted.

There are two categories of funding available under this solicitation:

Category 1: Project Sites. Funding under this category can be used to develop and/or enhance support services for children exposed to violence in their homes, schools, and communities; and to develop, enhance, and implement Community Violence Intervention (CVI) strategies (i.e., community-based gun violence interventions such as street outreach, violence interrupters, group violence intervention, and hospital-based violence interventions) that focus on addressing juvenile delinquency and crime through informed approaches. These approaches can also include efforts to build trust between, youth, the community, and law enforcement. Applicants using CVI strategies will receive priority consideration. Please see further information under Priority areas below (page 6).

Category 2: Training and Technical Assistance. In addition to supporting program implementation and direct service activities, the initiative will fund a training and technical assistance provider to support the Category 1 project sites and provide general training activities focused on exposure to violence as well as youth violence prevention and intervention.

Objectives

- Improve family and community responses to children exposed to violence.
- Increase protective factors to prevent juvenile violence, delinquency, and victimization.
- Support communities to develop, design, and deliver prevention and intervention strategies to support children exposed to violence.

Link to Additional Information: <https://ojjdp.ojp.gov/funding/fy2021/O-OJJDP-2021-100002>

12. Minority Science and Engineering Improvement Program (MSEIP), Department of Education

Application Deadline: July 6, 2021

The MSEIP is designed to effect long-range improvement in science and engineering education at predominantly minority institutions and to increase the flow of underrepresented ethnic minorities, particularly minority women, into scientific and technological careers.

The COVID-19 pandemic has greatly affected schools and postsecondary institutions nationwide. Almost instantaneously, all educational institutions from pre-K to graduate programs had to establish distance education programs even though many schools, institutions, and families lacked the needed technology, software, and training to teach and learn in a remote environment. Recent research (Liu et al., 2020; Son et al., 2020; Panchal et al., 2021) suggests that the COVID-19 pandemic has resulted in long-term stressors that negatively affect the mental health of students. College students are experiencing numerous pandemic-related effects including closures of universities, loss of income, increased alcohol or substance abuse, suicidal thoughts, and symptoms of anxiety (Panchal et al., 2021). In a recent survey of over 2,000 college students conducted in April 2020, one in five respondents reported that their mental health had significantly worsened during the pandemic (Liu et al., 2020). This baseline data underscores the urgent need to aggressively address the mental health needs of college students through strategies for ensuring mental health service access and intentional outreach to students with special circumstances. In developing a proposed project, we strongly encourage applicants to incorporate interventions and preventive strategies to address the mental health impact of the COVID-19 pandemic on college students.

For FY 2021, and any subsequent year in which we make awards from the list of unfunded applications from this competition, this priority is a competitive preference priority. Under 34 CFR 75.105(c)(2)(i), we award an additional three points to an application that meets this priority. This priority is: Building Capacity for Remote Learning. Under this priority, an applicant must propose a project that is designed to address one or both of the following priority areas:

- (a) Adopting and supporting models that leverage technology (e.g., universal design for learning, competency-based education (as defined in this notice), or hybrid/blended learning) and provide high-quality digital learning content, applications, and tools.
- (b) Providing personalized and job-embedded professional learning to build the capacity of educators to create remote learning experiences that advance student engagement and learning through effective use of technology (e.g., synchronous and asynchronous professional learning, professional learning networks or communities, and coaching).

For the addresses for obtaining and submitting an application, please refer to the USDE's Common Instructions for Applicants to Department of Education Discretionary Grant Programs, published in the Federal Register on February 13, 2019 ([84 FR 3768](#)), or at www.govinfo.gov/content/pkg/FR-2019-02-13/pdf/2019-02206.pdf.

Link to Additional Information: <https://www.govinfo.gov/content/pkg/FR-2021-05-21/pdf/2021-10742.pdf> or go to www.grants.gov and search for Funding Opportunity Number **ED-GRANTS-052121-001**

