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 1/11/2024 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. Stephen I. Katz Early-Stage Investigator Research Project Grant (R01 Clinical Trial Not Allowed), NIH

The purpose of the Stephen I. Katz Early-Stage Investigator Research Project Grant is to provide a new pathway for Early Stage Investigators (ESIs) who wish to propose research projects in a new direction for which preliminary data do not exist. Named in honor of the late National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) Director, Stephen I. Katz, M.D., Ph.D., this notice of funding opportunity (NOFO) is open to a broad range of scientific research relevant to the mission of the participating NIH Institutes and Centers (ICs).

Proposed projects must represent a change in research direction for the ESI and should be innovative and unique. A distinct feature for this NOFO is that applications must not include preliminary data. PD/PI's who wish to propose research projects consistent with their past work or training and/or supported by preliminary data, should apply to the Parent R01 or other NOFOs allowing for preliminary data.

Consistent with NIH's commitment to enhance workforce diversity, researchers from diverse backgrounds, including individuals from underrepresented racial and ethnic groups, individuals with disabilities, individuals from disadvantaged backgrounds, and women are strongly encouraged to work with their institutions to develop applications for this funding opportunity.

This NOFO is appropriate for ESIs who wish to initiate a research project in an area different from their previous research focus and/or training experience, and therefore have not produced preliminary data. Proposed research projects can rely on the PD/PI's prior work and expertise as its foundation, but must not be an incremental advancement, expansion, or extension of a previous research effort. The change in research direction could involve, for example, a new approach, methodology, technique, discipline, therapeutic target, and/or new paradigm, different from the ESI's previous research efforts. Importantly, the proposed direction must represent a change in research direction for the PD/PI. Because a change in research direction is heavily dependent upon the area of investigation, potential applicants are strongly encouraged to contact a program director to discuss their proposed project. If the application proposes multiple Principal Investigators (MPIs), all PD/PIs must be ESIs and the research direction must be a change in research direction for all MPIs. Please note that the application must describe how the proposed new research direction is different from the ESI's past work in a separate attachment entitled New Research Directions (see Section IV, SF424(R&R) Other Project Information).

Determinations of merit and feasibility will consider the conceptual framework, level of innovation, and potential to significantly advance our knowledge and understanding. Applicants are encouraged to justify the conceptual and technical feasibility for the proposed work through previous experience, literature citations, compelling logic, and published data and publicly available databases.

More information and FAQs are available on the Katz award program website.

Link to Additional Information: https://grants.nih.gov/grants/guide/pa-files/PAR-24-075.html

2. Research Initiative for Vaccine and Antibiotic Allergy (UG3/UH3 Clinical Trial Not Allowed), NIH

Allergic reactions to drugs and vaccines are a serious public health concern. For the purpose of this notice of funding opportunity (NOFO), allergic reactions include not only IgE-mediated reactions, but other immune-mediated and largely unpredictable drug and vaccine reactions. Based on data from 2013-2014, each year in the United States there are an

estimated 200,000 emergency department visits for adverse events related to antibiotics. In children 5 or younger, antibiotics cause more than half (56%) of estimated emergency department visits for adverse drug events and 82% of these visits are due to allergic reactions. Allergic reactions to antibiotics include immediate life-threatening reactions such as anaphylaxis, severe cutaneous reactions including Toxic Epidermal Necrolysis and Drug Reaction with Eosinophilia and Systemic Symptoms, and less severe reactions that still limit further use of the drugs. A label of antibiotic allergy leads to the use of alternative, frequently more expensive antibiotics, often with lower efficacy, which may contribute to antibiotic resistance as well as increased mortality and morbidity in hospitalized patients. While allergic reactions to vaccines are less common, the inability to receive a vaccine due to an allergy is problematic to the individual, and the perceived risk of allergic reactions to vaccines contributes to vaccine hesitancy creating a public health issue.

The objective of this NOFO is to solicit innovative projects to study the mechanisms and management of vaccine or antibiotic drug allergy (research on allergic responses to anti-viral, anti-fungal and anti-parasitic drugs will also be considered).

The scope of research into antibiotic or vaccine allergic reactions includes, but is not limited to, the following:

- IgE-mediated and other mechanisms of immediate allergic antibiotic or vaccine reactions.
- Non-IgE-mediated urticarial reactions to antibiotics or vaccines.
- Delayed-type hypersensitivity reactions to antibiotics or vaccines.
- Severe cutaneous adverse antibiotic or vaccine reactions.
- Biomarkers to identify people at risk for reaction or to confirm reactions to specific antibiotics or vaccines.
- Host factors that may predispose to allergic reactions including, but not limited to, host microbiome, genetics, or inflammatory conditions.
- Mechanisms by which specific infections may increase the risk of an allergic reaction to an antibiotic or vaccine.
- Immunomodulatory approaches to treating or preventing immunologic adverse antibiotic or vaccine reactions.

A secondary objective of this NOFO is to expand the number of investigators working in the field of vaccine and antibiotic drug allergy. Early-stage investigators are encouraged to apply.

UG3/UH3 phase transition and Milestones

This funding opportunity is designed as a two-stage cooperative agreement in which Project Scientists from NIAID will work with the investigative team. It will support projects that are organized into a two-year UG3 phase followed by a three-year UH3 phase. The UG3 phase may include pilot, observational, or hypothesis-generating high-risk projects. Preliminary data may be helpful but are not required. The use of electronic health records to identify potential participants for mechanistic studies is allowed. The use of human samples such as those related to clinically indicated and routinely used interventions or tests is encouraged. The UG3 must include milestones to determine the success of the project at the end of this phase. Milestones may be negotiated or re-negotiated after award as this program includes the flexibility to quickly revise milestones and/or aims within the scope of the original peer-reviewed application. Following the completion of the UG3 phase, NIAID staff will review the progress made and make the determination on whether the project will continue to the UH3 phase. NIAID support for the UH3 is contingent upon progress made during the UG3 phase, meeting the milestones, programmatic priorities, the original UG3/UH3 peer review recommendations, and the availability of funds. Some projects might not transition from the UG3 to the UH3 phase. Projects supported by the UH3 phase are required to be hypothesis driven, mechanistic, and extend the work initiated by the UG3 phase.

Link to Additional Information: https://grants.nih.gov/grants/guide/rfa-files/RFA-AI-24-002.html

3. 21st Annual P3 Awards: A National Student Design Competition Focusing on People, Prosperity, and the Planet, EPA

Application Deadlines: February 21, 2024
Award Amount: up to $75,000 per project for a project period of two years

The U.S. Environmental Protection Agency (EPA) seeks applications proposing to take a holistic approach, grounded in research and innovation, to develop and demonstrate solutions to real world challenges. The People, Prosperity, and the Planet (P3) Program highlights the use of scientific principles in creating innovative technology-based projects that achieve the mutual goals of improved quality of life, economic prosperity, and environmental protection. P3 encourages interdisciplinary collaborations across academic departments and STEM (science, technology, engineering, and mathematics) disciplines to devise innovative solutions to environmental and public health challenges in the U.S., including those in small, rural, Tribal and/or underserved communities.

P3 supports STEM education through hands-on experience and training that brings their classroom learning to life, while also allowing student teams to create tangible changes in their communities. To the extent practicable, applicants should describe the STEM education ecosystem in their project. A STEM education ecosystem consists of partners united by a collective vision of supporting participation in STEM through the creation of accessible, inclusive STEM learning opportunities spanning all education stages and career pathways.

The P3 program is emphasizing the use of innovation in projects submitted to this announcement. The program challenges and empowers interdisciplinary student teams to transform their classroom learning into hands-on experience by designing and demonstrating tangible solutions to real-world environmental issues in their communities.

Proposed projects should support P3's four strategic principles:

- **Principle 1:** Engage, educate, and empower the next generation of scientists, engineers, and the greater academic and external communities to improve the quality of people's lives, provide economic benefits, and protect the environment – the P3 approach.
- **Principle 2:** Support the development of innovative technologies that will contribute to improved social, environmental, and economic well-being, especially in communities with the greatest needs.
- **Principle 3:** Support the demonstration of proposed P3-developed technologies to prove their effectiveness and value.
- **Principle 4:** Foster the development of strategies to disseminate technologies in target communities and elsewhere.

Specific Research Areas of Interest
Applicants should address one and only one of the research areas listed below in their application. Note that each application must be submitted using a single Funding Opportunity Number (FON). All applications should clearly articulate how the proposed project/design will result in pollution prevention and/or control. The link to pollution prevention should be direct, such as, reduction in air emissions from a more efficient engine design. Applications should also consider the lifecycle environmental impacts of the project, including (if applicable) materials management, minimizing pollution, minimizing toxicity of materials, efficient use of water and energy and minimizing the impacts of disposal.

Funding Opportunity Numbers and Research Areas (NOTE: EPA encourages applicants to address Climate Change and Environmental Justice1 as applicable under each of the following research areas.)

- **Clean and Healthy Air (Funding Opportunity Number: EPA-G2024-P3-Q1)** - EPA supports research that advances science and provides the information critical to improving the Nation's air quality. EPA seeks projects that support research and demonstration of innovative and cost-effective solutions for improving air quality.
- **Clean and Safe Water (Funding Opportunity Number: EPA-G2024-P3-Q2)** - EPA supports research that

advances the science and innovative tools and information needed to protect and restore the Nation's watersheds, aquatic ecosystems, and water infrastructure to provide clean, adequate, and equitable supplies of water for optimum human health and ecosystem functions.

- **Safeguard and Revitalize Communities (Funding Opportunity Number: EPA-G2024-P3-Q3)** - EPA supports research that advances the science and innovative technologies needed to remediate and restore the Nation's most challenging and complex contaminated sites; to reduce the burden of contamination from the storage and management of waste while advancing the Agency's vision for a future paradigm that fundamentally disrupts the creation and flow of waste; and to revitalize affected communities from increased exposure to contaminants resulting from natural disasters and extreme events.
- **Ensure Safety of Chemicals (Funding Opportunity Number: EPA-G2024-P3-Q4)** - EPA supports research for evaluating and predicting impacts from chemical use and disposal and providing states and industries with information, tools, and methods to make better informed and more timely decisions about the thousands of chemicals in the U.S. EPA seeks projects that support research and demonstration of innovative and cost-effective solutions to chemical safety challenges, including reducing chemical risks.

It is recognized that some applications may be appropriate for more than one FON/research area, but the applicant should identify a single FON/research area for application submission purposes. The FON/research area is used to determine the appropriate peer review panel to evaluate the technical merit of the project.

Expected Outputs and Outcomes

Research outputs expected from the research funded under this RFA may include innovative, inherently benign, integrated, and interdisciplinary designs that will advance the scientific, technical, and policy knowledge necessary to enhance the human condition in communities – including those in small, rural, Tribal and/or underserved communities. Examples of these research outputs include innovative technologies and new methods that address knowledge, software, and data gaps. These outputs can be presented in publications, at the P3 Expo, and conferences.

The desired outcomes of the research conducted under this program address P3's four strategic principles listed in Section I.A. P3-supported technologies should also embody the P3 approach which aims to simultaneously: (1) maintain or improve human health and well-being; (2) advance economic competitiveness; and (3) protect and preserve the environment by effectively and efficiently using water, materials, and energy and minimizing the generation or emission of pollution or minimizing the use of toxic substances. The outputs and outcomes of the research efforts conducted via the individual P3 grants contribute directly to accomplishing the P3 Strategic Principles presented in Section I.A of this solicitation.

Link to Additional Information: https://www.grants.gov/search-results-detail/351629

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4. Personnel Development To Improve Services and Results for Children With Disabilities—Doctoral Training Consortia Associated With High- Intensity Needs, Department of Education

Application Deadlines: March 4, 2024
Award Budget: up to $6,500,000 per project for a project period of 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 and toddlers, 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 and experience, to be successful in serving those children.

- **Absolute Priority:** Doctoral Training Consortia Associated with High-Intensity Needs
  The purpose is to increase the number of highly skilled doctoral leaders, including increasing the number of multilingual leadership personnel and leadership personnel from racially and ethnically diverse backgrounds, who provide, or prepare others to provide, services to children with disabilities with high-intensity needs2by funding three doctoral training consortia to prepare and increase the number of personnel who are well qualified for, and

can act effectively in, leadership positions as researchers and special education/early intervention/related services personnel preparers in IHEs, or as leaders in SEAs, LAs under Part C of IDEA, LEAs, EIS programs, or schools. Each doctoral training consortium must support preparation programs that culminate in a doctoral degree (Ph.D. or Ed.D.).

To meet the requirements of this priority, an applicant must demonstrate how:

(1) The proposed project would increase the number of leadership personnel who are well qualified to advance practice, policy, or research in the project's preparation focus area and how it will provide, or prepare others to provide, evidence-based4culturally and linguistically responsive instruction, interventions, and services that improve outcomes for children with disabilities with high-intensity needs.

(2) Data demonstrates the potential success of the project in producing leaders in special education, early intervention, or related services that address the needs of children with high-intensity needs (including data from each IHE participating in the proposed consortium, if available). Applicants must include data on the number of students who have completed each doctoral program disaggregated by race, national origin and primary language(s), and disability status; the types of leadership positions in which recent program graduates are employed related to their preparation; the professional accomplishments of program graduates that demonstrate their leadership in special education, early intervention, or related services (e.g., public service, awards, publications), including those that address the needs of children with high-intensity needs; and the percentage of program graduates finding employment related to their preparation serving children with disabilities in underserved communities if applicable (e.g., employed in districts with high rates of poverty).

(3) The competencies each scholar acquires by participating in the consortium and by completing the university's program of study will relate to the knowledge and skills needed by the leadership personnel the applicant proposes to prepare.

Link to Additional Information: https://www.govinfo.gov/content/pkg/FR-2024-01-03/pdf/2023-28896.pdf

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5. Expanding Capacity in Quantum Information Science and Engineering (ExpandQISE), NSF

Application Deadlines:
- **Letter of Intent: March 8, 2024 (Track 2 only)**
- **Full Proposal: April 1, 2024 (Track 1 and 2)**

Award Amount:
- **Track 1: up to $800,000 total per award for a duration up to three years**
- **Track 2: up to $5,000,000 total per award for a duration up to five years**

The ExpandQISE program is designed to help (i) build capacity and infrastructure such as laboratories, people, training, local support, and critical mass across eligible U.S. Institutions of Higher Education who want to engage significantly in QISE, (ii) increase competitiveness of research faculty and the institution in future funding calls and opportunities, and (iii) leverage the readiness for involvement of local research and education communities in building up the capability.

The program seeks to address the NSF goal of increasing the participation of all members of society in the scientific enterprise through research. All non-R1 U.S.-based Institutions of Higher Education are encouraged to apply as Lead Institutions. For institutions at the early stage of participation in QISE research, it is critical to establish and develop a close connection with existing institutions possessing cutting-edge research and infrastructure. This is accomplished by a requirement of collaboration with at least one co-PI or co-PIs from other institutions with established and productive programs in QISE. The total amount budgeted for subawards is limited to no more than 30% of the full award amount.

Focus Areas
- **Focus Area 1: Quantum Fundamentals**, which advances the fundamental understanding of uniquely quantum

phenomena and their interfaces with classical systems under a broad range of conditions. Example research drivers in this category may include, but are not limited to:

- Understand and control quantum decoherence.
- Generate, characterize and manipulate quantum entangled states.
- Characterize, verify and exploit quantum algorithms and simulations for exponential speedup and their application to increased range of computational and other problems, including expanding quantum complexity theory.
- Discover, analyze and understand the fundamental properties of novel quantum many-body states of matter with tailored properties that can be exploited for quantum technologies, including control of multiple degrees of freedom using light-matter interactions at fine resolutions.
- Understand and analyze the role of quantum phenomena in biochemical processes that can be exploited for quantum technologies.

- **Focus Area 2: Quantum Metrology and Control**, which aims to transform our ability to measure, model, control, and exploit quantum phenomena in single and multi-particle systems. Example research drivers may include, but are not limited to:
  - Utilize quantum superposition of states, entanglement and quantum squeezing in metrology.
  - Characterize and minimize noise and develop, test and implement quantum error corrections in quantum computing environments.
  - Develop efficient high-resolution methods to generate, control, manipulate, read, and write quantum bits (qubits).
  - Design and optimize quantum sensors to provide increased sensitivity and resolution for use in living systems, earth and planetary sciences, medicine, and other fields and applications.

- **Focus Area 3: Co-Design and Quantum Systems**, where application-specific hardware and algorithms are designed for development of stable, controllable, scalable, error-free, low-dissipation platforms for a wide range of states. Example research priorities may include, but are not limited to:

  - Identify advantages, limitations and interfacing of quantum and classical circuit and computing devices to optimally design monolithic or hybrid systems targeted to serve various applications.
  - Develop quantum circuits, system designs and programming paradigms for quantum sensing, computing and communication; develop and validate viable platforms for quantum computing and testbeds for rapid prototyping, system characterization and optimization; and system integration techniques for combining quantum and classical computing platforms.
  - Learn how to generate, on demand, scalable systems of quantum objects in superposition states, with properties tailored to a specific use, while enabling information exchange between different types of such objects and across the quantum-classical boundary.
  - Explore novel and emergent applications of quantum information technology.

- **Focus Area 4: Education and Workforce Development**, which will increase the spectrum of graduate and/or undergraduate programs and the number of students applying to the programs, and enhance the diversity of the programs by closely connecting the graduate/undergraduate programs to convergent QISE research and removing barriers for entry. Depending on the level of resources available to each track, education and workforce-development activities may include, but are not limited to:

  - The development of new degree and/or certificate programs in QISE.
  - The development of new QISE-relevant curricula.
  - The creation of opportunities for students to interact with industry, for example through collaboration on research projects, internships, fellowships or entrepreneurial activities.
  - The implementation of effective and evidence based educational approaches leading to development of skilled and diverse QISE workforce through formal and informal education.

Program Goals
Linked to any of the first three Focus Areas, the overarching research goal is to achieve impactful advances in QISE by exploring the fundamental science of quantum sensors, quantum computing and quantum networks in all relevant convergent disciplines such as: computer and information sciences and engineering, physics, materials science, chemistry, mathematics, etc., and at varying levels of complexity, from quantum fundamentals to quantum devices and quantum systems.

Program Tracks
- **Track 1:** individual PI awards, is designed for individual PIs initiating planning for a research program in QISE, paired with one or more external co-PI(s). Required components:
    o Strong and compelling research proposal at the core of all activities. The research plan must be aligned with one or more of the three Focus Areas 1, 2, and 3 described in Section II.A and be well integrated with the workforce development plan described in Focus Area 4.
    o External connection. The research project must be connected to established and productive research effort or efforts in the area of Quantum Information Science and Engineering, with a key person or persons representing that effort acting as co-PI of the proposal. Funding may be provided to these entities through a subaward of up to 30% of total budget. No more than 30% of budget can be allocated to external connection.
    o Education. The proposal needs to include plans to integrate QISE principles and research outcomes into existing courses or new coursework

- **Track 2:** team awards, is designed for small- to medium-scale teams of 2 to 5 collaborators, also paired with one or more additional external Co-PIs as noted above. Required components. All Track 1 required components are also required in Track 2. In addition, the following components are also required in Track 2:
    o Faculty line building: A faculty development plan providing details of planned faculty development and demonstrating commitment to building a critical mass of tenured or tenure-track faculty to expand and maintain capacity.
    o Institutional Sustainability Plan, containing (i) a convincing design for expansion and continuation of QISE efforts at the Institution beyond the award duration, including plans for faculty line development, infrastructure, and resources, matching the Institution's vision of future QISE research effort, (ii) a statement confirming readiness to grant release time to faculty if needed for performing duties associated with the award, (iii) a partnership plan describing the Institutional vision of collaboration with local industry, government, private organizations and/or other institutions to expand the impact of activities. A timetable of planned activities must be included. The Institutional Sustainability Plan is written and signed by the Institution president, provost, or appropriate designee authorized to speak on behalf of the Institution and able to guarantee implementation of the Plan.
    o Within the proposal text, a clear description must be given outlining how access to all the infrastructure needed to pursue the proposed research will be provided, either on-site, or via partnership, access to external facilities and/or collaboration, and role and timetable of specific instrumentation purchases, development and installation.
    o Academic Degree Program: The proposal should include plans for the development of new, or re-focusing of existing Associate, Bachelors and/or Masters degree academic programs that support QISE training.
    o Describe the formation and operation plan of a 3-person External Advisory Board (EAB), charged with periodic assessment of funded activities, and evaluating progress in achieving the goals of the Institutional Sustainability Plan. EAB members must be established and recognized researchers in the field of QISE. To avoid potential conflicts of interest during the NSF review process please do not contact potential EAB members before award is made, and do not include names of potential EAB members in the proposal text.

Link to Additional Information: https://www.nsf.gov/pubs/2024/nsf24523/nsf24523.htm

6. Clinical-Community Linkages to Address Unmet Social Needs and Adverse Social Determinants of Health to Advance Health Equity among Populations Experiencing Health Disparities: The Bridge-to-Care Initiative (R01 Clinical Trial Optional), NIH

Innovative systems and models of healthcare delivery that holistically consider the context of people's lives and living conditions have the potential to significantly improve health, especially among populations disproportionately impacted by adverse social determinants of health (SDOH). This funding opportunity solicits research to advance the development and expansion of interventions and programs that leverage existing or create new healthcare-community partnerships to address unmet health-related social needs among individuals and families and adverse SDOH within communities. Partnerships might include, for example, a collaboration between a community clinic and a food bank to address food insecurity, or a partnership between an urgent care facility and a community-based violence prevention organization to prevent or mitigate the health sequela of violence within a defined geographical area.

Bridge-to-Care invites applications focused on improvements in a broad range of health outcomes that reflect health or functional status, health conditions, quality of life, morbidity and mortality, and/or health behaviors. Linkage to or utilization of social services to address social needs or SDOH are not acceptable outcomes for this funding opportunity but could be studied as mechanisms by which health outcomes are achieved. This initiative focuses on populations that experience health disparities, including racial and ethnic minority populations, people with lower socioeconomic status, underserved rural populations, sexual and gender minority populations, people with disabilities, and any subpopulations that can be characterized by the intersection of two or more of these descriptors.

Research Objectives
Bridge-to-Care will support research that leverages healthcare-community partnerships to address the social circumstances and conditions that influence health. Studies must be guided by a conceptual framework identifying hypothesized pathways between the intervention or program and outcome(s). Research designs that allow for the assessment of mechanisms through which the intervention or program impacts health outcomes are encouraged. Specific studies of interest include:

1. Intervention research to address unmet health-related social needs and adverse SDOH in the clinical or community setting by linking to existing services and resources or by collaboratively creating new health-promoting services and resources.
2. Evaluation research that assesses the health impact of existing or upcoming interventions and programs that leverage healthcare-community partnerships to address individual or family unmet health-related social needs or adverse SDOH within communities.

The populations of focus for this initiative are those experiencing health disparities in the U.S., including racial and ethnic minority populations, people with lower socioeconomic status, underserved rural populations, sexual and gender minority populations, people with disabilities, and any subpopulations that can be characterized by the intersection of two or more of these descriptors.

Partnerships: Bridge-to-Care requires the establishment, expansion, and/or evaluation of healthcare-community partnerships to enable the effective and efficient ability to address individuals' and families' unmet health-related social needs and adverse SDOH within communities. Effective partnerships do not serve simply as referral mechanisms to resources and services, but rather as mutually beneficial and equitable collaborations with shared goals. Community partners can include, but are not limited to, those in the housing, transportation, food system, economic development, education, social services, and criminal legal system sectors. Applicants should provide details on the nature and extent of their partnerships, including clearly describing the roles of partners and providing evidence of support from partner

organizations.

Primary Outcome: All studies must explicitly examine the impact of the intervention or program on a health outcome. Health outcomes may reflect health or functional status, health conditions, quality of life, morbidity and mortality, and/or health behaviors.

Individual- or Family-Level Social Needs Interventions: Studies examining the health impact of new or adapted interventions conducted in healthcare settings, in partnership with community organizations, that screen for patient or family health-related social needs (e.g., food, utilities, housing, transportation, employment, education, financial strain, safety) and aim to address unmet patient or family social needs.

Interventions to Address SDOH: Studies that leverage healthcare-community partnerships to improve health by addressing adverse SDOH within communities. This may include new or adapted interventions focused on expanding the availability and accessibility of community-level social and economic resources or reducing exposure to community-level hazards. Primary health outcomes in this category should be assessed at the individual level, and secondarily at the community level, if appropriate.

Evaluation of Interventions/Programs to Address Social Needs or SDOH: Studies that evaluate the health impact of existing or upcoming interventions or programs at the federal, tribal, state, local, or organizational level that leverage healthcare-community partnerships to address individual or family unmet health-related social needs or adverse SDOH within communities. Programs of interest include those aimed at addressing social needs related to food insecurity, housing instability, and/or economic circumstances or programs to address adverse SDOH within communities to mitigate the impact of concentrated poverty, neighborhood violence, education quality, employment opportunities, etc.

NINR will hold a Pre-Application Webinar for prospective applicants for the Bridge-to-Care Initiative on Thursday, February 15, 2024 from 1:00–2:00pm ET. Please register to attend the webinar at:
https://us02web.zoom.us/webinar/register/WN_MIH0VGSMQM-uOQp7aea4XA#/registration .

Link to Additional Information: https://www.nsf.gov/pubs/2024/nsf24513/nsf24513.htm

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7. ECosystem for Leading Innovation in Plasma Science and Engineering (ECLIPSE), NSF

Application Deadline: August 13, 2024
Award Information: budgets are not limited but need to reflect the actual needs of the proposed project

The primary goal of the ECosystem for Leading Innovation in Plasma Science and Engineering (ECLIPSE) program is to identify and capitalize on opportunities for bringing fundamental plasma science investigations to bear on problems of societal and technological need within the scope of science and engineering supported by the participating NSF programs.

The ECLIPSE meta-program has been created to foster an inclusive community of scientists and engineers, an ecosystem spanning multiple NSF Directorates, in the pursuit of translational research at the interface of fundamental plasma science and technological innovation. The ECLIPSE program builds on the long history of NSF leadership in supporting multi-disciplinary research in plasma science and engineering, and is intended to enhance organizational unity within NSF, and potentially with other funding agencies, in considering proposals and supporting projects that may otherwise struggle to find a natural home within the existing hierarchy of Directorates, Divisions, and programs within the Foundation.

Examples of topical areas within the scope of the ECLIPSE program include but are not limited to:

- Plasma surface interactions, with applications to, e.g., advanced manufacturing, materials processing, and catalysis.
- Atmospheric pressure plasmas and microplasmas with applications to, e.g., microelectronics, plasma agriculture, environmental remediation, and other clean and decarbonized energy goals enabled by electrification of the chemical industry.

- Dusty plasmas with applications to, e.g., development of nanomaterials, aerosols, and functionalized surface coatings.
- Novel sensor development for highly non-equilibrium plasmas with applications to, e.g., cubesat-based geospace measurements and industrial plasma diagnostics.
- Novel computational modeling for multi-component and/or multi-phase plasma systems with applications to, e.g., space weather prediction and plasma reactor design.
- Novel studies of plasmons in nano-photonics and nano-optics with applications to, e.g., sub-THz wireless communication and photocatalytic chemical processes.
- New chemical measurement science for characterizing processes occurring in plasmas and using plasmas as part of measurement systems with applications to, e.g., analysis of environmental contaminants or identification of forensic evidence.
- Study of fundamental chemical reactions and mechanisms in plasmas with applications to, e.g., novel chemical synthesis.

Proposals submitted for consideration by the ECLIPSE program should satisfy the following criteria:

(1) clearly articulate the fundamental scientific and/or engineering challenge in plasma science and engineering that may be relevant to more than one NSF program; and

(2) provide a substantive discussion of how a resolution of the stated scientific and/or engineering challenge will address specific societal and/or technological needs identified as priorities by the research communities, policymakers and/or other stakeholders. Depending on the nature of the proposal, the latter may be described as the Intellectual Merit or the Broader Impact of the proposed activity.

Link to Additional Information: https://new.nsf.gov/funding/opportunities/ecosystem-leading-innovation-plasma-science

8. Responsible Design, Development, and Deployment of Technologies (ReDDDoT), NSF

Application Deadline:
- **Phase 1 - Planning Grants, Translational Research Coordination Networks, Workshops: April 08, 2024**
- **Phase 2 - Project proposals: April 22, 2024**

Award Information:
- **Phase 1:**
    - **Planning: up to $300,000 with a performance period of 2 years or less**
    - **Translational Research Coordination Network: up to $500,000 for 3 to 4 years**
    - **Workshop: up to $75,000 with a duration of no more than one year**
- **Phase 2: between $750,000 and $1,500,000 with a performance period of 3 years**

The ReDDDoT program invites proposals from multidisciplinary, multi-sector teams that examine and demonstrate the principles, methodologies, implementations, and impacts associated with responsible design, development, and deployment of technologies, focusing especially on key technologies.

Critical to advancing these goals is supporting multi-sector collaborations involving universities, industry, government, non-profit and professional organizations, community members and organizations, and others. It is particularly important to explore and include approaches that enable and empower all communities, to include economically disadvantaged and marginalized populations, to participate in all stages of technology development, including the earliest stages of ideation and design. Undertaking such collaborative stakeholder involvement can be challenging. It may be necessary to build new capacity and structures, or expand upon existing ones, to facilitate such stakeholder involvement.

An integrative transdisciplinary approach is crucial, with strategic combinations drawn from a broad array of fields including, for example, computing, sociology, public policy, geosciences, engineering, biological sciences, economics,

ethics, and the law. For the impact of the work to be sustained, it is also critical to develop a workforce with relevant and necessary skills in academia, industry, government, and civil society.

Priority Areas and Types of Activities

In FY 2024, proposals for Planning Grants, Translational Research Coordination Networks, and Project proposals should focus on one or more of the following three priority areas: artificial intelligence, biotechnology, or natural and anthropogenic disaster prevention or mitigation including, but not limited to, climate change mitigation and environmental sustainability. Projects that cover multiple priority areas and/or include other areas in addition to the priority areas, are also welcome. In contrast, Workshop proposals may focus on any of the key technology areas and national, societal and geostrategic challenges delineated in Section 10387 of the CHIPS and Science Act of 2022.

A variety of approaches could support the advancement of knowledge and practice in support of the ReDDDoT program goals. The program will consider projects that are exploratory in nature as well as projects that build on and expand efforts already underway. This includes work in developing, applying, and building capacity in public interest technology, i.e., the study and application of technology expertise to advance the public interest in a way that generates public benefits and promotes the public good. The program will also consider projects based on existing or emerging industry practices or standards that facilitate safe and ethical technology creation and implementation. The following is an illustrative—not exhaustive—list of the types of ReDDDoT project activities:

- Research
- Implementation
- Methodologies and tools
- Infrastructure to support education, training, and stakeholder engagement

Proposal Types
- **Phase 1 proposals: Planning Grants, Translational Research Coordination Network, Workshops**
  - **Planning Grants:** The goal should be to facilitate collaborative transdisciplinary and multi-sector activities in anticipation of submission of larger proposals to the program in the future. A Planning Grant may engage in activities to help identify stakeholders and build necessary relationships; identify research gaps, questions, and hypotheses; and/or describe potential approaches to solutions.
  - **Translational Research Coordination Network:** The proposed TRCN project should jump start new community activity across multiple disciplines and sectors, and not propose funding for on-going operation of existing networks or established collaborations. It should include a strong plan for dissemination of results to diverse stakeholders. International participation is encouraged where appropriate.
  - **Workshops:** may address one or more of the key technology areas and/or national, societal, and geostrategic challenges delineated in Section 10387 of the CHIPS and Science Act of 2022 which include: (1) Artificial intelligence, (2) High performance computing, (3) Quantum information systems, (4) Robotics & advanced manufacturing, (5) Natural & anthropogenic disaster prevention or mitigation, (6) Advanced communications and networking technology, (7) Biotechnology, (8) Data storage, distributed ledger technologies, & cybersecurity, (9) Advanced energy & industrial efficiency technologies, and (10) Advanced materials science. The five national, societal, and geostrategic challenge areas are (1) U.S. national security, (2) U.S. manufacturing and industrial productivity, (3) U.S. workforce development and skills gaps, (4) Climate change and environmental sustainability, and (5) Inequitable access to education, opportunity, or other services.

    The objectives of these workshops should be to raise awareness and identify approaches and needs relevant to ReDDDoT in one or more technology/challenge area(s); explore and refine opportunities for future projects; and facilitate building of relationships/trust to enable substantive transdisciplinary and multi-sector collaborations. In particular, workshops should enable participants to learn how to work together to apply shared values of serving the public good and minimizing harm at all stages of the

technology lifecycle. Outcomes from workshops could help inform ReDDDoT program priorities.

- **Phase 2 Project proposals**
  - The Phase 2 opportunity is intended for projects with an established track record in the priority areas with teams that have experience in use-inspired and translational activities in responsible design, development, and deployment. Projects covering multiple priority areas and/or including other areas in addition to the priority areas are welcome.

Link to Additional Information: https://www.nsf.gov/pubs/2024/nsf24524/nsf24524.htm

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9. Future Manufacturing (FM), NSF

Application Deadline: April 11, 2024
Award Amounts:
- **Future Manufacturing Research Grants (FMRG): up to $3,000,000 for up to four years**
- **Future Manufacturing Seed Grants (FMSG): up to $500,000 for up to two years**

Future Manufacturing supports fundamental research and education that will enable new manufacturing approaches to eliminate scientific technological, educational, economic, and social barriers that limit current manufacturing. Proposals should provide examples of how the research results could lead to transformational manufacturing advances that address significant problems. The research may be use-inspired, strongly motivated by the need to create knowledge or knowhow to help develop practical solutions to address societal challenges. Proposals should provide a vision statement describing the new manufacturing capabilities that could be enabled by the proposed research, and the potential industrial, economic, environmental and societal benefits. They should also describe the implications of the proposed activities on the education of a diverse and skilled technical workforce.

Future Manufacturing will require major advances in technologies for the sustainable synthesis and production of new materials, chemicals, quantum and semiconductor devices and integrated systems of assured quality with high yield and at reasonable cost. It will require advances in artificial intelligence and machine learning, new cyber infrastructure, new approaches for mathematical and computational modeling, new dynamics and control methodologies, new ways to integrate systems biology, synthetic biology and bioprocessing, new processes that enhance human worker capabilities and efficiencies, and new ways to benefit the economy, workforce, human behavior, and society. It will require intelligent robots that are adaptable co-workers, and new processes designed with a better understanding of human factors for both efficiency and enhanced human worker capabilities.

Future Manufacturing may involve the production and/or use of quantum computing, quantum sensing, and quantum communication and network technologies. Fundamental research and unconventional approaches to manufacturing quantum devices, circuits, and systems could help meet the demanding requirements for operation at sub-1K temperatures; achieve extreme precision in device fabrication and heterogeneous integration; enable reproducibility, scalability, circuit controls, packaging, and assembly; and formulate novel device and system manufacturing approaches to reduce the cost of quantum-cyber systems.

This solicitation will support the following two award tracks:

- **Future Manufacturing Research Grants (FMRG)** - Awards in this track will support fundamental, multidisciplinary, and integrative research and education to enable Future Manufacturing in one or more of the thrust areas described below. FMRG funding is intended to provide support for several principal investigators with complementary expertise, graduate students, senior personnel (including post-doctoral researchers), their collective research needs (e.g., materials, supplies and travel) and educational activities. The integrative contributions of the team should clearly be greater than the sum of the contributions of each individual member of the team.

FMRG proposals must describe the current state of art in the relevant manufacturing area and the specific challenges that will be addressed by the proposed research. They must present a compelling technical rationale and convincing technical approach to enable Future Manufacturing to address these challenges. An essential part of this argument is to explain clearly how the proposed research will overcome barriers that limit current manufacturing to provide new manufacturing capabilities not currently available and how that will transform manufacturing practice. Proposals must include a prospective vision for translation of fundamental research results to manufacturing practice, even if that translation is not part of the proposed research. They must explain the potential benefits and challenges of new manufacturing to the economy, environment, communities and to society as a whole.

- **Future Manufacturing Seed Grants (FMSG)** - Awards in this track will provide support to stimulate fundamental research and education in one or more of the thrust areas described below through multidisciplinary team building, the exploration of new fundamental research concepts or approaches, and the initiation of research and educational activities that could provide the basis for a subsequent proposal for an FMRG.

  FMSG proposals should describe the building of multidisciplinary research teams that will engage community stakeholders to develop new directions in Future Manufacturing. Proposals must describe innovative and creative methods to establish new research directions and plans to demonstrate their feasibility. A variety of activities may be proposed, including pilot research projects to obtain preliminary results that could strengthen a proposal to a future solicitation, workshops, development of new partnerships, benchmarking current manufacturing capabilities on a global scale, and prototyping new educational activities. Proposals should demonstrate how the composition of the multidisciplinary team is appropriate for the scope of proposed activities. The Broader Impacts section of FMSG proposals should explain how proposed educational activities will equip a diverse range of students and workforce participants with skills to engage in Future Manufacturing, and how proposed activities will benefit the economy, environment, labor force, and industry and society at large.

This solicitation focuses on three thrust areas described below. Proposals should address Future Manufacturing in one or more of the thrust areas:

1. **Future Cyber Manufacturing Research** - Research in this thrust area exploits opportunities at the intersection of computing and manufacturing with the potential to radically transform concepts of manufacturing. It anticipates new abstractions in design and manufacturing, the availability of a data infrastructure that capitalizes on the convergence of innovative sensors, actuators, devices and systems; new manufacturing approaches for semiconductor and quantum devices; low-latency and reliable secure sensing and communications; cloud and edge computing; data analytics; mathematical and computational modeling; uncertainty quantification and risk analysis; advanced controls; human-centric automation, teleoperation, and human-robot interaction; digital twins; and artificial intelligence and machine learning to increase the generality and reliability and reduce the expense of manufacturing processes and system control. Research may exploit opportunities at the intersection of quantum platforms and manufacturing with the potential to advance cyberinfrastructure with quantum computing, quantum sensing, and/or quantum communication/network technologies. Recent advances in machine learning and predictive analytics, autonomy, wireless communications, cyber-physical-human systems, the industrial internet of things, and advanced computing systems and services provide powerful incentives to rethink, reconceptualize, reinvent, and explore new possibilities for manufacturing.

2. **Future Eco Manufacturing Research** - Research in this thrust area will enable holistic manufacturing processes that encompass the entire manufacturing lifecycle and account for energy consumption, health and environmental impact, and cost effectiveness. Fundamental research could enable manufacturing processes that are designed from the start to produce products that degrade naturally or on cue or can be re-purposed without harmful byproducts and without reliance on technologies that are potentially harmful to the environment and society at large. Research in this thrust area could lead to new processes or synthesis of manufacturable materials, chemicals, devices, systems, and products that enable facile and direct re-purpose, reuse, or up-cycling into environmentally benign products. As semiconductor devices have become an integral part of daily life, research in

eco-friendly semiconductor manufacturing processes for future micro-/nano-electronics and quantum devices and systems could reduce environmental impacts while being cost-effective. The goal of such research in eco manufacturing is to keep resources in use as long as possible, extract their maximum value while in use, and recover materials at the end of their service life.

3. **Future Biomanufacturing Research** - Research in this thrust area will enable biologically based production of therapeutic cells and molecules, chemicals, pharmaceuticals, materials, polymers, and fuels, as well as bio-based technologies for computing, signal processing, communication, and sensing in biological, electronic, and quantum systems. Fundamental research to enable new biomanufacturing will expand knowledge in biology and engineering to create products that interact effectively and seamlessly with cells, living tissues, and synthetic substrates. In addition, the seamless integration of new biological knowledge with manufacturing technology during product and process development may overcome longstanding barriers to scalability of new types of biomanufacturing platforms. Research should uncover and exploit fundamental biological principles, including quantum sensing and imaging, to address scaling challenges in biomanufacturing that will facilitate rapid transition from benchtop to production readiness. Research in this thrust area may complement and leverage advances at NSF centers for biomanufacturing and has the potential to enable new biomanufacturing paradigms that can benefit personalized healthcare, sustainable energy, environmental sustainability, and society at large.

Link to Additional Information: https://www.nsf.gov/pubs/2024/nsf24525/nsf24525.htm

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10. Research in Basic Plasma Science and Engineering, DOE

Application Deadline:
- **Pre-Application: February 9, 2024**
- **Full Proposal: March 29, 2024**

Award Information: up to $770,000 for a period of three years

The objective of this FOA is to provide research opportunities to single investigators or small-group researchers from universities and non-profit organizations, with an aim to expand current knowledge or explore new frontiers of knowledge leading to significant advances in the fundamental understanding of basic plasma science and engineering. For more information, see National Academies of Science, Engineering, and Medicine Plasma 2020 Decadal Survey, FESAC Long Range Plan 2020, and Community Planning Process (CPP) Report 2019-2020. Research projects are generally expected to support students, postdocs, or individuals from diverse backgrounds, including individuals historically underrepresented in the research community.

Topical Areas
1. **Dynamical Processes in Plasma** - Specific areas of interest include but are not limited to understanding: (1) the onset of magnetic reconnection and trigger mechanisms for explosive instabilities in nature (solar flares, geomagnetic storms) and in the laboratory; (2) plasma dynamo processes by which magnetic fields are generated in the laboratory and nature; (3) mechanisms by which energy is transferred between fields, flows, and particles; and (4) how energy is partitioned in various forms (thermal, magnetic, turbulent).

   Integrated research projects, involving detailed laboratory experiments or data, advanced modeling or simulation, and observation data from one or more advanced spacecraft or satellite missions including the National Aeronautics and Space Administration (NASA) Magnetospheric Multiscale Mission (MMS), Parker Solar Probe, are encouraged.

2. **Nonneutral, Ultracold Neutral, and Dusty Plasma Physics** - Specific areas of interest include but are not limited to understanding: (1) trapped antimatter plasmas to probe the symmetries of nature and recreate the conditions of exotic astrophysical plasmas; (2) how coherent structures are created through the electrical self-fields of the plasma and its interactions with waves; and (3) strongly coupled dusty plasmas and/or other properties of dust particles in space or fusion-relevant plasmas.

Integrated research projects, combining precision measurements, theory and modeling, and/or providing a test for theoretical models, are encouraged.

3. **Low Temperature Plasma Processes** - Specific areas of interest include but are not limited to: (1) innovative, predictive control and manipulation of plasma kinetics and energy distribution functions; (2) understanding underlying mechanisms and plasma interactions with liquid, pathogens, and biomaterials through activated surface processes and chemical reactions; and (3) the predictive understanding of self-organization or pattern formation in plasmas interacting with surfaces.

    Integrated research projects, combining detailed laboratory experiments or data, theory, and advanced modeling or simulation, are encouraged.

    Link to Additional Information: https://www.grants.gov/search-results-detail/351743

11. NINR Areas of Emphasis for Research to Optimize Health and Advance Health Equity (R01 Clinical Trial Optional), NIH

Application Deadline: June 5, 2024
Award Amount: budgets are not limited but need to reflect the actual needs of the proposed project

This funding announcement solicits R01 grant applications that propose independent research projects that are consistent with the scientific framework detailed in the 2022-2026 National Institute of Nursing Research (NINR) Strategic Plan (https://www.ninr.nih.gov/aboutninr/ninr-mission-and-strategic-plan). This research will be rooted in nursing's holistic, contextualized approach to understanding people and their health, address the nation's most pressing and persistent health challenges with a solutions orientation, and employ innovative and rigorous study designs to inform practice and policy.

Guiding Principles

NINR's guiding principles describe the qualities that investigators should emphasize in all NINR-supported research. The extent to which studies reflect these principles will factor into funding decisions. NINR will prioritize research that:

- tackles today's pressing health challenges and stimulates discoveries to prepare for, prevent, or address tomorrow's challenges
- discovers solutions across clinical, community, and policy settings to optimize health for individuals, families, communities, and populations
- advances equity by removing structural barriers from research, cultivating diversity in perspectives and ideas, and fostering inclusion and accessibility in designing, conducting, and participating in research
- is innovative, develops or applies the most rigorous methods, and has the potential for the greatest impact on health

Research Lenses

NINR identified five complementary and synergistic research lenses that best leverage the strengths of nursing research and promote multilevel approaches, cross-disciplinary and -sectoral collaboration, and community engagement in research. It is important to note that the lenses are not research topics, but rather perspectives through which to consider the full spectrum of nursing research topics that encompass health and illness within the context of people's lived experiences. These lenses allow nursing research to examine new topics while also allowing scientists to take a different look at long-standing areas of interest. The research lenses are:

- **Health Equity:** Reduce and ultimately eliminate the systemic and structural inequities that place some at an unfair, unjust, and avoidable disadvantage in attaining their full health potential.
- **Social Determinants of Heath:** Identify effective approaches to improve health and quality of life by addressing

the conditions in which people are born, live, learn, work, play, and age.
- **Population and Community Health:** Address critical health challenges at a macro level that persistently affect groups of people with shared characteristics.
- **Prevention and Health Promotion:** Prevent disease and promote health through the continuum of prevention from primordial to tertiary.
- **Systems and Models of Care:** Address clinical, organizational, and policy challenges through new systems and models of care.

NINR-supported researchers have the flexibility to apply a single lens or a combination of lenses in their study designs. NINR encourages researchers to view the health equity and social determinants of health lenses as primary foci through which to consider the population and community health, prevention and health promotion, and systems and models of care lenses. Applicants are encouraged to review the NINR Strategic Plan for more information on each of the research lenses.

Link to Additional Information: https://grants.nih.gov/grants/guide/pa-files/PAR-22-230.html

12. Resident Instruction Grants for Institutions of Higher Education in Insular Areas (RIIA), USDA/NIFA

Application Deadline: February 28, 2024
Award Amounts:
- **Planning Activity Grants: up to $30,000 for a period of 24 to 36 months**
- **Standard Grants: up to $200,000 for a period of 36 to 48 months**

The RIIA program seeks to:
1. Strengthen institutional educational capacities, including libraries, curriculum, faculty, scientific instrumentation, instruction delivery systems, and student recruitment and retention, to respond to identified State, regional, national, or international education needs in the food and agricultural sciences.
2. Attract and support undergraduate and graduate students to educate them in identified areas of national need in the food and agricultural sciences.
3. Facilitate cooperative initiatives between two or more insular area eligible institutions, or between those institutions and units of State Government or organizations in the private sector, to maximize the development and use of resources such as faculty, facilities, and equipment to improve food and agricultural sciences teaching programs.
4. Conduct undergraduate scholarship programs to assist in meeting national needs for training food and agricultural scientists.

RIIA activities also support the creation, adaptation of learning materials and teaching strategies to operationalize what we know about how students learn. RIIA-funded projects shall also focus on imparting both technical knowledge as well as employability skills such as communication, teamwork, and problem solving.

Leadership Skills Development. The development of leadership skills, knowledge, and qualities are necessary to prepare students for agricultural and related careers in the private sector, government, and academia. RIIA education/teaching applications must demonstrably incorporate a leadership development component to equip students with technical and leadership abilities upon graduation.

Specific activities may include:

a. Developing practical applications to increase understanding of leadership roles, including critical thinking, problem solving, and communication skills, ethics and professionalism.
b. Connecting the academic classroom experience with daily leadership roles and organizational activities.
c. Working in team-based environments and projects to develop and build leadership and interpersonal skills.
d. Providing opportunities for mentoring and shadowing.

e. Organizing leadership academies, workshops, trainings, etc.

Applications for the RIIA program must do the following:

1. Improve formal postsecondary agricultural sciences education/instruction to ensure a competent and qualified workforce to serve the food and agricultural sciences and meet current and future national food and agricultural science needs.
2. Improve the economic health and viability of rural communities through the development of degree programs emphasizing new and emerging employment opportunities in food and agricultural sciences.
3. Increase the number and diversity of students who will pursue and complete a 2 or 4-year post-secondary education in the food and agricultural sciences, or Science Technology Engineering and Mathematics (STEM) disciplines.

Link to Additional Information: https://www.nifa.usda.gov/grants/funding-opportunities/resident-instruction-grants-program-institutions-higher-education

13. Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants Program, USDA/NIFA

Application Deadline: March 8, 2024
Award Amounts:
- **Regular Grant: up to $50,000 for a period of 24 to 36 months**
- **Collaborative Type 1 Grant: up to $150,000 for a period of 24 to 36 months**

The purpose of the Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants (SPECA) program is to award grants to:

1. Enhance curricula in agricultural education.
2. Increase faculty teaching competencies.
3. Interest young people in pursuing higher education in order to prepare for scientific and professional careers in the food and agricultural sciences.
4. Promote the incorporation of agriscience and agribusiness subject matter into other instructional programs, particularly classes in science, business, and consumer education.
5. Facilitate joint initiatives by the grant recipient with other secondary schools, institutions of higher education that award an associate degree, and institutions of higher education that award a bachelor's degree to maximize the development and use of resources, such as faculty, facilities, and equipment, to improve agriscience and agribusiness education.
6. Support other initiatives designed to meet local, State, regional, or national needs related to promoting excellence in agriscience and agribusiness education.
7. Support current agriculture in the classroom programs for grades K–12.

SPECA-funded projects encourage academic institutions, in partnership with organizations and employers to identify and address challenges facing the food and agricultural sciences education and workforce community. Accordingly, SPECA-funded project activities support the creation, adaptation, and adoption of learning materials and teaching strategies to operationalize what we know about how students learn. SPECA-funded projects shall also focus on imparting both technical knowledge as well as professional skills such as communication, teamwork, and problem solving, as these are abilities expected by employers.

Each project must support academic instruction with a primary focus in at least one of the following three K-14 Grade Levels:

- **K-8 grade levels:** Projects with a specific focus on any of the academic grades Kindergarten through eight.

- **Secondary School:** Projects with a specific focus on any of the academic grades 9 through 12.
- **Junior or Community College**: Projects with a specific focus on associate degree level (2-year postsecondary) activities.

Educational Need Areas for the SPECA program are:

1. **Curriculum Development, Instructional Delivery Systems, and Expanding Student Career Opportunities.**
   To promote new and improved curricula and materials to increase the quality of, and continuously renew, the Nation's K-14 academic programs in the food and agricultural sciences. Projects should stimulate the development and facilitate the use of exemplary education models and materials that incorporate the most recent advances in subject matter research, research on teaching and learning theory, and instructional technology. Projects must include strategies for the adoption and integration of curricula, materials and other products generated.

   Examples of eligible projects in this Need Area may include, but are not limited to, the following strategies:
   a. The development of innovative course content, including innovative ways to integrate scientific research experiences into K-14 curricula such as STEM labs, school gardens or other activities that provide experiential learning activities to students.
   b. The use of new approaches to the study of traditional subjects or the introduction of new food and agricultural sciences subjects.
   c. Hands-on learning experiences and methods to extend learning beyond the classroom and provide students with opportunities to solve complex problems in the context of real-world situations.
   d. Opportunities for students to complete apprenticeships, internships, career mentoring experiences, or other participatory learning experiences. Targeted summer programs providing a bridge to 4-year food and agricultural sciences degrees for underrepresented high-school students are encouraged.
   e. Creating career placement or higher education academic counseling activities to encourage graduates to pursue postsecondary food and agricultural sciences degrees.

2. **Facilitating Interaction with other Academic Institutions.**
   To promote K-14 focused activities that form linkages between secondary, 2-year postsecondary, and baccalaureate degree-granting institutions to maximize the use of resources supporting outstanding education in the food and agricultural sciences. Activities should focus on ensuring completion of secondary degrees, enrollment into postsecondary programs and/or transfer to a 4-year institution. Partnerships, collaborative arrangements, and shared resources between institutions (including course credit sharing arrangements) are encouraged.

   Examples of projects strategies include:
   a. Development and use of articulation agreements, 2+2 or 2+2+2 arrangements (policies and programs designed to foster credit transfer between high schools, community colleges, and four-year institutions), advanced placement credit transfer, or the sharing of faculty and facilities.
   b. A project that focuses on developing and implementing comprehensive, multiinstitutional practices proven to recruit and retain K-14 level students with a focus on cultivating those students to pursue a postsecondary food and agricultural sciences degree.
   c. A project that will result in establishing and implementing programs or procedures (articulation agreements, electronic exchange of coursework, etc.) to disseminate curricula, instructional methods, or training practices to faculty across the state or region.

Link to Additional Information: https://www.nifa.usda.gov/grants/funding-opportunities/secondary-education-two-year-postsecondary-education-agriculture-k-12

Internships and Fellowships Opportunities

1. **Fellowships for Digital Publication, NEH**
   Application Deadline: April 17, 2024
   Award Information: $30,000 to $60,000 for six to 12 months

This program supports individual scholars pursuing significant humanities projects that require digital expression and publication. It provides recipients with time to conduct research, prepare publications, and develop and incorporate multimedia or interactive components using existing technologies and platforms. Recipients must publish their products in digital form. Outcomes and outputs include, but are not limited to, monographs, peer-reviewed articles, websites, virtual exhibitions, translations with annotations or a critical apparatus, and critical editions. This opportunity was formerly known as the NEH-Mellon Fellowships for Digital Publication. This will be the last year it is offered. We encourage future individual applicants interested in digital publication to apply to the NEH Fellowships program.

Link to Additional Information: https://www.neh.gov/grants/research/fellowships-digital-publication

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

23. Energy, Power, Control, and Networks (EPCN), NSF
    https://new.nsf.gov/funding/opportunities/energy-power-control-networks-epcn-0

24. Engineering of Biomedical Systems, NSF
    https://new.nsf.gov/funding/opportunities/engineering-biomedical-systems-0

25. Catalysis, NSF
    https://new.nsf.gov/funding/opportunities/catalysis-2

26. Process Systems, Reaction Engineering, and Molecular Thermodynamics, NSF
    https://new.nsf.gov/funding/opportunities/process-systems-reaction-engineering-molecular-2

27. Disability and Rehabilitation Engineering (DARE), NSF
    https://new.nsf.gov/funding/opportunities/disability-rehabilitation-engineering-dare-2

28. Cellular and Biochemical Engineering, NSF
    https://new.nsf.gov/funding/opportunities/cellular-biochemical-engineering-0

29. Facility and Instrumentation Request Process (FIRP), NSF
    https://www.nsf.gov/pubs/2023/nsf23602/nsf23602.htm

30. Research Infrastructure in the Social and Behavioral Sciences (RISBS), NSF
https://new.nsf.gov/funding/opportunities/research-infrastructure-social-behavioral-sciences

31. Secure and Trustworthy Cyberspace (SaTC), NSF
https://www.nsf.gov/pubs/2024/nsf24504/nsf24504.htm

32. Mind, Machine and Motor Nexus (M3X), NSF
https://new.nsf.gov/funding/opportunities/mind-machine-motor-nexus-m3x

Announcing Previous Important Funding Opportunities

1. Research on Innovative Technologies for Enhanced Learning (RITEL), NSF
Deadline: January 24, 2024
https://www.nsf.gov/pubs/2023/nsf23624/nsf23624.htm

2. Ethical and Responsible Research (ER2), NSF
Deadline: January 25, 2024
https://www.nsf.gov/pubs/2023/nsf23630/nsf23630.htm

3. National Institute of General Medical Sciences Predoctoral Basic Biomedical Sciences Research Training Program (T32), NIH
Deadline: January 25, 2024
https://grants.nih.gov/grants/guide/pa-files/PAR-23-228.html

4. Cancer Research Education Grants Program - Research Experiences (R25 Clinical Trial Not Allowed), NIH
Deadline: January 25, 2024
https://grants.nih.gov/grants/guide/pa-files/PAR-23-277.html

5. Modules for Enhancing Biomedical Research Workforce Training (R25 - Independent Clinical Trial Not Allowed), NIH
Deadline: January 26, 2024
https://grants.nih.gov/grants/guide/pa-files/PAR-24-040.html

6. Research Experiences for Teachers (RET) in Engineering and Computer Science, NSF
Deadline: January 29, 2024
https://www.nsf.gov/pubs/2024/nsf24503/nsf24503.htm

7. Initiative for Maximizing Student Development (IMSD) (T32), NIH
Deadline: January 29, 2024
https://grants.nih.gov/grants/guide/pa-files/PAR-24-031.html

8. Graduate Research Training Initiative for Student Enhancement (G-RISE) (T32), NIH
Deadline: January 29, 2024
https://grants.nih.gov/grants/guide/pa-files/PAR-24-032.html

9. Cognitive Neuroscience (CogNeuro), NSF
Deadline: February 1, 2024
https://new.nsf.gov/funding/opportunities/cognitive-neuroscience-cogneuro-0

10. Incorporating Human Behavior in Epidemiological Models (IHBEM), NSF
Deadline: February 1, 2024

https://www.nsf.gov/pubs/2024/nsf24507/nsf24507.htm

11. Bidirectional Influences Between Adolescent Social Media Use and Mental Health (R01 Clinical Trial Optional), NIH
    Deadline: February 1, 2024
    https://science.osti.gov/ber

12. Designing Synthetic Cells Beyond the Bounds of Evolution (Designer Cells), NSF
    Deadline: February 1, 2024
    https://www.nsf.gov/pubs/2024/nsf24505/nsf24505.htm

13. Measures and Methods to Advance Research on Minority Health and Health Disparities-Related Constructs (R01 Clinical Trial Not Allowed), NIH
    Deadline: February 5, 2024
    https://grants.nih.gov/grants/guide/pa-files/PAR-22-072.html

14. Population Approaches to Reducing Alcohol-related Cancer Risk (R01 Clinical Trial Optional), NIH
    Deadline: February 5, 2024
    https://grants.nih.gov/grants/guide/pa-files/PAR-23-244.html

15. International Research Experiences for Students (IRES), NSF
    Deadline: February 5, 2024
    https://www.nsf.gov/pubs/2024/nsf24506/nsf24506.htm

16. Hispanic-Serving Institutions Education Grants Program, USDA/NIFA
    Deadlines: February 6-8, 2024
    https://www.nifa.usda.gov/grants/funding-opportunities/hispanic-serving-institutions-education-grants-program

17. Leveraging Extant Data to Understand Developmental Trajectories of Late Talking Children (R21 Clinical Trial Not Allowed), NIH
    Deadline: February 7, 2024
    https://grants.nih.gov/grants/guide/pa-files/PAR-24-045.html

18. Information and Practice Needs Relevant to Late Talking Children (R21 Clinical Trial Not Allowed), NIH
    Deadline: February 7, 2024
    https://grants.nih.gov/grants/guide/pa-files/PAR-24-046.html

19. Food Safety Outreach Program, USDA / NIFA
    Deadline: February 13, 2024
    https://www.nifa.usda.gov/grants/funding-opportunities/food-safety-outreach-program

20. Institutes for Higher Education Faculty Institutes for K-12 Educators, NEH
    Deadline: February 14, 2024
    https://www.neh.gov/grants/education/institutes-k-12-educators

21. Landmarks of American History and Culture, NEH
    Deadline: February 14, 2024
    https://www.neh.gov/grants/education/landmarks/highered

22. Humanities Research Centers on Artificial Intelligence, NEH
    Deadline: February 14, 2024
    https://www.neh.gov/program/humanities-research-centers-artificial-intelligence

23. Blueprint and BRAIN Initiative Program for Enhancing Neuroscience Diversity through Undergraduate Research Education Experiences (BP BRAIN-ENDURE) (R25 Clinical Trial Not Allowed), NIH
Deadline: February 15, 2024
https://grants.nih.gov/grants/guide/rfa-files/RFA-NS-24-014.html

24. Organic Agriculture Research and Extension Initiative, USDA/NIFA
Deadline: February 15, 2024
https://www.nifa.usda.gov/grants/funding-opportunities/organic-agriculture-research-extension-initiative

25. Crop Protection and Pest Management Competitive Grants Program, USDA/NIFA
Deadline: February 15, 2024
https://www.nifa.usda.gov/grants/funding-opportunities/crop-protection-pest-management

26. Summer Research Education Experience Program (R25 Clinical Trial Not Allowed), NIH
Deadline: February 18, 2024
https://grants.nih.gov/grants/guide/pa-files/PAR-21-168.html#_

27. Ethical, Legal and Social Implications (ELSI) Research (R01 Clinical Trial Optional), NIH
Deadline: February 20, 2024
https://grants.nih.gov/grants/guide/pa-files/PAR-23-293.html

28. Formal Methods in the Field (FMitF), NSF
Deadline: February 20, 2024
https://www.nsf.gov/pubs/2024/nsf24509/nsf24509.htm

29. 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, Department of Education
Deadline: February 20, 2024
https://www.govinfo.gov/content/pkg/FR-2023-12-07/pdf/2023-26855.pdf

30. NLM Grants for Scholarly Works in Biomedicine and Health (G13 Clinical Trial Not Allowed), NIH
Deadline: February 26, 2024
https://grants.nih.gov/grants/guide/pa-files/PAR-23-183.html

31. Education Research and Development Center Program, Department of Education
Deadline: March 7, 2024
https://www.govinfo.gov/content/pkg/FR-2023-11-27/pdf/2023-26008.pdf

32. Collaborative Research in Computational Neuroscience (CRCNS), NSF
Deadline: March 7, 2024
https://www.nsf.gov/pubs/2024/nsf24510/nsf24510.htm

33. Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants Program, USDA / NIFA
Deadline: March 8, 2024
https://www.nifa.usda.gov/grants/funding-opportunities/secondary-education-two-year-postsecondary-education-agriculture-k-12

34. Emerging Mathematics in Biology (eMB), NSF
Deadline: March 11, 2024
https://www.nsf.gov/pubs/2024/nsf24513/nsf24513.htm

35. Partnerships for Research Innovation in the Mathematical Sciences (PRIMES), NSF
Deadline: March 11, 2024
https://www.nsf.gov/pubs/2024/nsf24517/nsf24517.htm

36. Partnerships for Research and Education in Materials (PREM), NSF
Deadline: March 12, 2024
https://www.nsf.gov/pubs/2024/nsf24512/nsf24512.htm

37. Partnerships for Research and Education in Physics (PREP), NSF
Deadline: March 12, 2024
https://www.nsf.gov/pubs/2024/nsf24514/nsf24514.htm

38. Strengthening American Infrastructure (SAI), NSF
Deadline: March 12, 2024
https://www.nsf.gov/pubs/2024/nsf24519/nsf24519.htm

39. Partnerships in Astronomy & Astrophysics Research and Education (PAARE), NSF
Deadline: March 12, 2024
https://www.nsf.gov/pubs/2024/nsf24516/nsf24516.htm

40. Mathematical Sciences Research Institutes, NSF
Deadline: March 14, 2024
https://www.nsf.gov/pubs/2023/nsf23606/nsf23606.htm

41. Future of Semiconductors (FuSe2), NSF
Deadline: March 14, 2024
https://www.nsf.gov/pubs/2024/nsf24521/nsf24521.htm

42. Collaborations in Artificial Intelligence and Geosciences (CAIG), NSF
Deadline: March 15, 2024
https://www.nsf.gov/pubs/2024/nsf24518/nsf24518.htm

43. Innovation Corps Pilot, NASA
Deadline: March 29, 2024
https://nspires.nasaprs.com/external/solicitations/summary!init.do?solId=%7B214C3AE7-5428-D4C1-457A-E00CB2338777%7D&path=open

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

45. Coastal Program - FY24, U.S. Fish and Wildlife Service
Deadline: May 30, 2024
https://www.grants.gov/web/grants/view-opportunity.html?oppId=350418

46. Assessment of Climate at Institutions (ACt) Award (RC2 - Clinical Trial Not Allowed), NIH
Deadline: June 3, 2024 (LOI); July 1, 2024 (FP)
https://grants.nih.gov/grants/guide/pa-files/PAR-24-038.html

47. BRAIN Initiative: Development and Validation of Novel Tools to Probe Cell-Specific and Circuit-Specific Processes in the Brain (R01 Clinical Trial Not Allowed), NIH
Deadline: June 7, 2024
https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-24-280.html

48. Exploratory Grant Award to Promote Workforce Diversity in Basic Cancer Research (R21 Clinical Trial Not Allowed), NIH
Deadline: June 18, 2024
https://grants.nih.gov/grants/guide/pa-files/PAR-24-039.html

49. Environmental Education Local Grants Program for Region 2, EPA
Deadline: July 1, 2024
https://www.grants.gov/web/grants/view-opportunity.html?oppId=350204

50. Advancing Genomic Medicine Research (R21 Clinical Trial Optional), NIH
Deadline: July 8, 2024
https://grants.nih.gov/grants/guide/rfa-files/RFA-HG-23-033.html

51. University Research & Development (R&D) Projects & Capstone Projects, Naval Surface Warfare Center Dahlgren Division
Deadline: July 17, 2024
https://www.grants.gov/view-opportunity.html?oppId=349325

52. 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

53. Advanced Scientific Computing Research (ASCR), Department of Energy
Deadline: September 30, 2024
https://science.osti.gov/ascr

54. Biological and Environmental Research (BER), Department of Energy
Deadline: September 30, 2024
https://science.osti.gov/ber

55. F24AS00431 FY24 Recovery Implementation, Fish and Wildlife Service
Deadline: September 30, 2024
https://www.grants.gov/web/grants/view-opportunity.html?oppId=350612

56. Basic Energy Sciences (BES), Department of Energy
Deadline: September 30, 2024
https://science.osti.gov/bes/

57. Fusion Energy Sciences (FES), Department of Energy
Deadline: September 30, 2024
https://science.osti.gov/fes/

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