

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 10/24/2023 and is in no way all-inclusive of funding opportunities available. Further information has been shared with External Resource Coordinators and Research Coordinators at each UPR campus by e-mail.**

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## **1. Cognitive Neuroscience (CogNeuro), NSF**

**Application Deadline Window: January 15 to February 1, 2024**

**Award Amount: \$225K/175K per year for three to five years**

The Cognitive Neuroscience (CogNeuro) Program seeks to fund proposals that can advance our understanding of the neural mechanisms underlying human cognition and behavior. Funded proposals typically advance theories in cognitive neuroscience by relating precise and rich quantifications of physiology, cognition and behavior with each other (Intellectual Merit). Funded proposals also typically strengthen the field through, for example, outreach, mentoring the next generation of diverse cognitive neuroscientists and/or increasing awareness and utilization of the research the field produces (Broader Impacts).

### **Intellectual Merit**

In general, successful proposals provide a theoretical motivation for a series of experiments and analyses that test the differential predictions of that theory; they go beyond quantifying physiology associated with cognition and behavior. Research topics considered for funding include but are not limited to: action, perception, imagery, recognition, categorization, learning and memory, working memory, attention, language, problem solving, decision-making and social reasoning. Commensurate with the inherently multidisciplinary nature of the field and the limitations of any single technique, a wide variety of physiological methods are considered, including but not limited to: neuroimaging (e.g., fMRI, EEG, MEG), non-invasive stimulation (e.g. TMS, tES), lesion analysis, intracranial recording, optogenetics, genetics, optical imaging, computational modeling and pharmacological interventions in both human and non-human primates and other animal models. The program is particularly interested in proposals that achieve or enable convergence across multiple techniques.

### **Broader Impacts**

In general, successful proposals seek to make impacts beyond traditional academic routes, such as having the PIs publish research or teach undergraduate courses. Strong broader impacts can be quite varied but will typically involve specific efforts strengthening the field and/or increasing its visibility by leveraging the characteristics of the institution, department and/or researcher. Consider the following non-exhaustive examples:

1. STEM education and outreach, particularly in underserved communities.
2. Directly involving undergraduates and high-school students in research.
3. Making tools and applications available, discoverable, and easily useable by, the general public.
4. Science journalism or communication.

These efforts often relate to the proposed research, but suitable broader impacts with less direct connections to the specific research may also be proposed.

Prior to the development of a full proposal, investigators are strongly encouraged to submit a one-page summary of the proposed research to a program director to evaluate its appropriateness for the CogNeuro Program. Please contact the program director early enough to allow for revisions and incorporation of what may be extensive feedback. The summary should include an overview of your research and statements of intellectual merit and broader impacts, the two NSF review criteria.

**Link to Additional Information:** <https://new.nsf.gov/funding/opportunities/cognitive-neuroscience-cogneuro-0>

## **2. Modern Equipment for Shared-use Biomedical Research Facilities: Advancing Research-Related Operations (R24 Clinical Trials Not Allowed), NIH**

**Application Deadlines: November 15, 2023**

**Award Amount: up to \$350,000 direct costs only**

This Notice of Funding Opportunity (NOFO) invites qualified institutions to seek funds to transform or improve the operations of existing shared research facilities through the purchase and installation of latest equipment that enable and enhance a broad range of research-supporting activities. Any equipment supported by this NOFO must be substantially

used in a laboratory research core facility, animal facility, or similar shared-use research space to ensure broad benefits for the institutional research community. Moreover, any request must be justified by research-related demands for the modernization of research-supporting functions or for the advancement of facility operations. This NOFO does not support the purchase of scientific instruments or their components, nor components of building-level infrastructure equipment that indirectly support research activities (such as HVACs or power generators).

NIH recognizes that modern physical infrastructure that supports the scientific enterprise is indispensable for the advancement of biomedical research. Laboratory spaces or animal facilities: i) employ a wide range of advanced technical solutions to create well-controlled environments, ii) provide research spaces with equipment to facilitate and optimize research-supporting activities, and iii) provide tools that assist in facility operations and monitoring.

The objective of this NOFO is to support the acquisition of latest, technologically advanced equipment needed to advance the operational efficacy, productivity, and throughput; improve energy efficiency, enhance or streamline operating processes and procedures in core laboratories, animal research facilities, or other shared-use research support space. Providing access to such equipment can also expand the capacity of essential support services for evolving and emerging research programs. Maintaining current functions, replacing broken equipment, and routine upgrading are not supported by this NOFO. This NOFO does not support the acquisition of scientific research instruments that acquire experimental data or any other instrument directly involved in experimental processes that lead to data collection. Some examples of such excluded instruments include, but are not limited to, spectrometers, microscopes, biomedical imagers, cell analyzers, sequencers, PCR machines, chromatography equipment, and metabolic cages. Computer and data storage systems supporting scientific data collection, storage, and analysis are also not supported by this NOFO. These instruments may be requested through ORIP's shared instrumentation programs.

Animal research facilities are one of the targeted research areas of this NOFO. Examples of supported equipment for animal facilities include, but are not limited to:

- Multi-functional ventilated cages and/or cage racks for small animals
- Specialized caging system for large animals
- Aquatic animal systems equipped with water quality assessment sensors
- Automated feeding or watering systems to aid in consistency and accuracy of animal care
- Robotics and automations for animal facility operation
- Advanced, environmental-friendly, high performing or high-throughput systems such as cage, rack, bottle, and tunnel washers

A particular research interest that this NOFO supports is the modern equipment that enables detection, measurement, monitoring, recording, and reporting environmental extrinsic factors to allow experiments reproducibly conducted under similar environmental conditions and animal care, husbandry settings. Certain pieces of modern equipment used in shared animal research facilities may help assess environmental factors that potentially impact rigor and reproducibility of research procedures and outcomes. The research activities and related outcomes may be affected by environmental factors that potentially affect animal husbandry, welfare, fertility, growth, physiology, bio-behavior, and general health. These environmental extrinsic factors include, but not limited to, lighting of animal cages, ventilation, vibration, population density, aquatic animals tank size, water quality and pathogen exposure, as well as social interaction and environmental enrichment for higher animal species such as nonhuman primates. Therefore, this NOFO encourages the use of novel and modern equipment to detect, monitor, quantify, record, analyze in real-time and report these factors, as well as equipment that incorporates features to allow longitudinal assessment of environmental factors.

Examples of supported equipment that align with this interest include, but are not limited to:

- Veterinary care devices and veterinary diagnostic systems
- Telemetry equipment to monitor cage conditions and/or animal well-being for purposes of animal husbandry (not experimental data collection)
- Environmental management devices that assist in the monitoring and customizing of environmental conditions,

such as temperature, humidity, air flow, and lighting

Core laboratories and specialized facilities are other spaces targeted by this NOFO. Without access to modern research facilities with well-controlled environments and furnished with specialized support equipment, many research functions are not feasible. Examples of supported modern laboratory research equipment include, but are not limited to:

- Modern biobanking or cryopreservation equipment
- Freezers assisted by robotic arms or other forms of automation
- Biosafety cabinets
- Fume hoods
- Incubators
- Centrifuges
- Autoclaves or other sterilizers
- Cryogenic gas recovery/recycling equipment (servicing two or more instruments)
- Environmental chambers, isolators, or other chambers designed to create specialized environments
- Bioreactors
- Lyophilizers
- Liquid dispensers or other automated sample preparation equipment (single piece of equipment)
- Cryostats or other tissue sectioning equipment
- Single piece, integrated slide staining equipment (multiple pieces for single steps in the process are not allowed)
- Nucleic acid extraction equipment
- Peptide or oligonucleotide synthesizers
- 3D Printers
- Automated cell processing equipment
- Water purification/treatment equipment (in lab, not for an entire building)

Other equipment that modernizes, streamlines, or improves the operating efficiency of the facility is also supported. Computers or other electronics that are built into the equipment with specialized software may also be a part of the equipment request if and only if they are inseparable from the requested equipment.

Equipment supported by this NOFO differs in its functionality from scientific research instruments, but such equipment is critically needed to advance and accelerate the operations of research facilities and, as a result, contributes indirectly to the overall advancement of scientific research. Any equipment acquired under this NOFO must benefit the larger biomedical research enterprise at the applicant institution and represent a technological step forward. The facility may serve investigators whose research is supported by NIH, other Federal agencies, private foundations, institutional funds, or other sources. Once installed, the requested equipment should enable new and advanced capabilities, offer innovative technological solutions, or enhance support operations, as well as benefit the user community and multiple research projects of many investigators. The acquisition of a single piece of the latest equipment necessary to support specialized research-supporting activities is the goal of this NOFO. Moreover, only one facility can be supported; this NOFO does not support the upgrading of multiple facilities at a single institution. Only one type of equipment may be requested. Auxiliary items required for the physical operation of the major equipment piece are also permitted, e.g., a centrifuge with a rotor. Such auxiliary items must be dedicated to the main equipment piece, required for the main equipment piece to function, and not be capable of stand-alone operation. Multiple items of the same type of equipment are also permitted, e.g., cages racks with cages, but any request must be justified by the research-related demands on the facility and the operational capacities therein.

*All applicants are strongly encouraged to reach out to the Scientific/Research Contact(s) before submission of an application to discuss equipment requests and eligibility criteria.*

**Link to Additional Information:** <https://grants.nih.gov/grants/guide/pa-files/PAR-24-028.html>



### **3. Head Start/Early Head Start Grantee -- Communities in Puerto Rico, DHHS/Administration for Children & Families**

**Application Deadlines: December 14, 2023**

**Award Amount: up to \$65,855,821 per budget period for 60-month project period with five 12-month budget periods**

The Head Start program is administered by ACF, an operating division (OPDIV) of the U.S. Department of Health and Human Services (HHS). ACF intends to fund applications that demonstrate an organization's commitment and capacity to operate a Head Start and/or EHS program that raises the quality of early care and education in the community and helps children start school ready to succeed. School readiness requires that children are cognitively, physically, socially, and emotionally prepared to continue to make progress as they enter kindergarten. ACF is seeking applicants that are able to use the best evidence-based early education practices in their programs to support high-caliber classroom instruction, home visiting services, and effective family engagement and health promotion.

The Head Start and EHS programs provide grants to public and private non-profit and for-profit agencies to provide comprehensive child development services to predominantly economically disadvantaged children and families. Head Start's primary purpose is to prepare children to be ready for school. In fiscal year (FY) 1995, the EHS program was established to serve pregnant women and children from birth to 3 years of age in recognition of the mounting evidence that the earliest years matter a great deal to children's growth and development. Since its beginning in 1965, Head Start has served more than 37 million children and their families. In FY 2022 Head Start was funded to serve 833,075 children and families and of these, 197,455 were funded in the EHS program. These programs were operated by 1,560 Head Start recipients, including 1,137 recipients providing EHS.

Head Start and EHS programs must provide, directly or through referral, early, continuous, intensive, and comprehensive child development and family support services that will enhance the physical, social, emotional, and intellectual development of participating children in the key domains of physical development and health; social and emotional development; approaches to learning, language, and literacy; cognition; and general knowledge. Programs support parent engagement in their roles as their children's teachers and advocates, and help parents move toward self-sufficiency. Head Start promotes school readiness by addressing the key domains of language, literacy, mathematics, science, and social and emotional development.

Head Start and EHS are designed to increase the number of low-income children receiving high-quality, comprehensive early education services that help facilitate healthy development, including physical and social/emotional development, and prepare them for school success. To meet this goal, it is critical that funds awarded through this NOFO do not supplant existing services. Given the need for continuity of care to support the rapid development in the earliest years, OHS expects that recipients will serve pregnant women, infants, and toddlers for at least 1,380 annual hours, as required in 45 CFR § 1302.21(c), unless approved for a locally designed option. OHS expects that recipients will implement a full-year model, as described in 45 CFR Part 1302 Subpart B, that will require per-child costs that, in most circumstances, will be higher than the costs needed to provide part-year services.

Applicants are encouraged to use this opportunity to design a model of services and program options that best meet the needs of children and families over time, including helping to meet the childcare needs of parents. Applicants are encouraged to bring new and innovative ideas that are evidence-based or evidence-informed to maximize the extent to which EHS and Head Start, in collaboration with other partners and early childhood education providers, can prepare children and their families for school.

#### **Program Model**

ACF is interested in new and innovative models that provide continuous and seamless services for pregnant women, children, and their families. These models should be designed to be responsive to community needs; be evidence-based or evidence-informed; and maximize the extent to which the EHS and Head Start resources, in collaboration with other partners and early childhood education providers, can prepare children and their families for school.

These models should include a description of the plan to assess and meet the needs of families pursuing employment, training, education, and other opportunities to support their well-being. The proposed services, and associated family engagement efforts, should have convenient schedules and carefully planned hours designed for families that reflect the schedules and working conditions among low-income parents.

Grants will be awarded based on how effectively the model design fits the needs of the community to be served and the overall quality of the proposed program, dependent upon available funding. Additionally, grants will be awarded based on the applicant's ability to provide sustainable approaches toward staffing, which includes providing staff with competitive wages, comprehensive benefits and wellness support. Competitive wages should be comparable to similar roles in local public schools and provide a minimum wage that covers basic necessities. A well-compensated and supported workforce is essential to providing high-quality services to promote children's optimal development and family well-being.

**Link to Additional Information:** <https://www.grants.gov/web/grants/view-opportunity.html?oppId=350570>

#### **4. National Digital Newspaper Program, NEH**

##### **Application Due Dates:**

- **Optional Draft: November 30, 2023**
- **Full Proposal: January 12, 2024**

**Award Amount: up to \$325,000 including direct and indirect costs for a project period of two years**

The National Digital Newspaper Program (NDNP) is a partnership between NEH and the Library of Congress (LOC) to create a national digital resource of historically significant newspapers published between 1690 and 1963 from all 56 states and U.S. jurisdictions. LOC will permanently maintain this freely accessible, searchable online database. An accompanying national newspaper directory of bibliographic and holdings information on the website directs users to newspaper titles available in all types of formats. During its partnership with NEH, LOC will digitize and contribute a significant number of newspaper pages drawn from its own collections to Chronicling America.

If your application is successful, you will select newspapers—published in states or jurisdictions between 1690 and 1963—and over a period of two years, convert approximately 100,000 pages into digital files (preferably from microfilm), according to the technical guidelines outlined by LOC. You may select titles published in any language with a valid ISO 639-2 language code (or ISO 630-3, if appropriate). For newspapers published after 1927, you may only select those in the public domain (i.e., published without copyright or for which the copyright was not registered or renewed by 1963). If you wish to select titles for digitization published after 1927, you must indemnify LOC and NEH.

NEH welcomes applications that involve collaboration between prior NDNP recipients and new partners. Such collaborations might involve arrangements to manage the creation and delivery of digital files; regular and ongoing consultation about project management; or formal training for project staff at an onsite institute or workshop. NDNP has supported such collaborations between the following partners: Arkansas and Mississippi; Florida and Puerto Rico; Louisiana and Mississippi; Minnesota and Iowa; Minnesota and North Dakota; Minnesota and South Dakota; Montana and Idaho; Texas and New Mexico; Texas and Oklahoma; and Virginia and West Virginia.

NDNP supports dissemination activities that engage the wider public in exploring the digitized content, within appropriate limits. Your budget may include staff time, consultation with outside experts, and other eligible expenses related to disseminating NEH-funded products, but the primary purpose of this program is to create a national digital resource of historically significant newspapers.

If you propose digitizing titles in languages other than English, you must include staff with the relevant language expertise to review the quality of the converted content and related metadata.

Your award should include an advisory board that includes scholars, teachers, traditional knowledge keepers, librarians, and archivists at a variety of institutions. The advisory board should be involved in selecting the newspapers to be digitized. In addition to providing advice on content, the advisory board should help disseminate the project's progress

and Chronicling America more generally.

If you are seeking your first, second, or third NDNP award, you should develop selection criteria with the following principles in mind:

- titles should reflect the political, economic, and cultural history of the state or jurisdiction
- you should give preference to titles that are recognized as “papers of record” at the state or county level and that contain published legal notices, news of state and regional governmental affairs, and announcements of community news and events
- selected titles should provide state, or at least multi-county, coverage of the majority of the population areas
- you should give preference to newspapers with a broad chronological span over those with short runs or those that published sporadically

**Link to Additional Information:** <https://www.neh.gov/grants/preservation/national-digital-newspaper-program>

## **5. Interventions on Health and Healthcare Disparities on Non-Communicable and Chronic Diseases in Latin America: Improving Health Outcomes Across the Hemisphere (R01 - Clinical Trial Required), NIH**

### **Application Deadlines:**

- **Letter of Intent: Thirty (30) days prior to the application submission deadline**
- **Full Proposal: February 05, 2024**

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

This NOFO will support innovative, collaborative, and multidisciplinary research focused on clinical, health services and/or community-based interventions that address health and healthcare disparities related to NCDs with the highest disease burden and mortality in Latin America and among U.S. Hispanics/Latinos. Those NCDs include obesity, diabetes and related complications, cardiovascular and cerebrovascular diseases, hypertension, hypercholesterolemia/dyslipidemia, cancer, chronic lung disease (including asthma), chronic kidney disease, osteoarthritis, as well as chronic liver disease and cirrhosis. In addition, sleep disordered breathing, cognitive impairment and dementia, and mental and behavioral health conditions have been increasingly studied in Hispanic/Latino persons in the U.S., and throughout Latin America, yet their diagnosis is often delayed. Considering the significant incidence of both fatal and non-fatal interpersonal violence across Latin America and U.S. Hispanic/Latino communities, research in this topic is also of interest. Although most studies on NCDs have focused on adults, some studies have highlighted the increasing prevalence of children with chronic diseases and their unique needs. Therefore, children will be included in this initiative.

This NOFO will support research on interventions (especially multicomponent or multilevel interventions), encompassing community-based and health system-based interventions, quasi-experimental studies, and clinical trials (including cluster-randomized trials, pragmatic trials), and other research designs that address the health and healthcare disparities in primary prevention, and/or awareness, effective treatment, and control of NCDs across the region. Evaluation of interventions is of interest and can be included in the proposed scope of work.

Projects will include studies conducted in Latin American countries where Spanish is the main language. **Studies performed in countries more highly represented (including Puerto Rico) in the U.S. Hispanic/Latino population will be prioritized.** Puerto Rico would be considered both a U.S. territory and part of Latin America. Research teams are expected to include both U.S.-based and Latin America-based investigators; Puerto Rico-based teams are not required to include investigators from other U.S.-based institutions. U.S.-based institutions -including Puerto Rico-will be the award recipients, but the proportion of the budget and research activities would be significantly larger for Latin America-based institutions (in the range of 30% to U.S.-based institutions and 70% to Latin America-based institutions), where the majority of the research is expected to be conducted. Research teams are also expected to include at least one PI or MPI from institutions in Latin America. The expectations regarding the research teams' composition and budget proportion are not based on race or ethnicity. These expectations are based on the ability and experience of local investigators to facilitate studies involving populations with whom they are acquainted in the geographic areas of interest, and who would

have a better understanding of the health conditions, public health and healthcare needs, healthcare systems, or social determinants of health in the locations where the studies will take place. Collaborations (e.g., consultative, or subject-matter expert role) with investigators or research teams from Latin American countries with low representation in the U.S. Hispanic/Latino population are welcome.

Specific Research Areas of Interest include but are not limited to:

- Development and testing interventions -especially within the primary care setting-that optimize prevention, treatment effectiveness, improve patient self-management, and reduce preventable complications (including but not limited to hospital readmissions) associated with NCDs. The impact of these interventions on the reduction of health/healthcare disparities and advancing health equity is of interest.
- Development and testing innovative approaches on access and optimal continuity of care, quality of care, especially for underserved populations (e.g., Indigenous populations, older adults, rural communities, and Afro-Latino communities).
- Development and testing interventions that account for differences in clinical manifestation or clinical phenotypes of NCDs with the highest disease burden among Latin American communities and U.S. Hispanics/Latinos.
- Testing and evaluating interventions that strengthen the integration of effective care of NCDs into primary care through different healthcare models (including care coordination and community partnerships) and build resilient and sustainable healthcare systems.
- Development and testing innovative healthcare models that adapt and incorporate guidelines for the care of persons with multiple chronic conditions within the context of low resource settings, and underserved communities, including Indigenous populations, older adults, rural communities, and Afro-Latino communities. Models can combine clinical and/or community and/or home-based and/or health information/digital components and include assessment of equitable delivery of healthcare and attainment of health outcomes, reduction in health disparities, feasibility, and sustainability.
- Testing and evaluating interventions that address barriers, facilitators, and best practices regarding the implementation of health technologies at different levels of influence (e.g., individual, clinical/healthcare settings, social determinants of health, policies, infrastructure) or components within the healthcare system, and their impact on health/healthcare disparities.
- Development and testing home- and/or community-based strategies and/or community partnerships to optimize health promotion among medically underserved and low-resource populations. Studies that inform the best health promotion strategies for Indigenous and Afro-Latino populations, and other underserved communities are of interest.
- Development and testing interventions that address discrimination, racism, oppression, and mistreatment experienced by Indigenous, Afro-Latinos and other race/ethnic minority and underserved populations across the region and how they reduce disparities in access, utilization and quality of healthcare and increase equitable attainment of optimal health outcomes related to NCDs.

*Investigators proposing NIH-defined clinical trials may refer to the Research Methods Resources website for information about developing statistical methods and study designs.*

**Link to Additional Information:** <https://grants.nih.gov/grants/guide/pa-files/PAR-23-304.html>

## **6. Advanced Scientific Computing Research (ASCR), Department of Energy**

**Application Deadline: open until September 30, 2024**

**Award Information: award size will depend on the number of meritorious applications and the availability of appropriated funds**

The mission of the Advanced Scientific Computing Research (ASCR) program is to advance applied mathematics and computer science; deliver the most sophisticated computational scientific applications in partnership with disciplinary science; advance computing and networking capabilities; and develop future generations of computing hardware and



software tools for science and engineering in partnership with the research community, including U.S. industry. The strategy to accomplish this has two thrusts: developing and maintaining world-class computing and network facilities for science; and advancing research in applied mathematics, computer science and advanced networking.

ASCR supports cross-disciplinary research in which other domains of scientific inquiry may provide the data to provide use-cases for computer scientists and applied mathematicians to devise generalized methods, models, algorithms and tools. ASCR's interest in these fields is not to solve the specific problems in other scientific domains but to use those challenges to advance the state of the art and increase knowledge in its fields of research.

The priority areas for ASCR include the following:

- Develop mathematical models, methods and algorithms to accurately describe and predict the behavior of complex systems involving processes that span vastly different time and/or length scales.
- Advance key areas of computer science that:
  - Enable the design and development of extreme scale computing systems and their effective use in the path to scientific discoveries; and
  - Transform extreme scale data from experiments and simulations into scientific insight.
- Advance key areas of computational science and discovery that support the missions of SC through mutually beneficial partnerships.
- Develop and deliver forefront computational, networking and collaboration tools and facilities that enable scientists worldwide to work together to extend the frontiers of science.

The computing resources and high-speed networks required to meet SC needs exceed the state-of-the-art by a significant margin. Furthermore, the system software, algorithms, software tools and libraries, programming models and the distributed software environments needed to accelerate scientific discovery through modeling and simulation are often beyond the realm of commercial interest. To establish and maintain DOE's modeling and simulation leadership in scientific areas that are important to its mission, ASCR operates leadership computing facilities, a high-performance production computing center, and a high-speed network, implementing a broad base research portfolio in applied mathematics, computer and network sciences, and computational science to solve complex problems on computational resources at the exascale and beyond.

The ASCR subprograms and their objectives follow:

1. **Applied Mathematics** - This subprogram supports basic research leading to fundamental mathematical advances and computational breakthroughs across DOE and SC missions. Important areas of basic research include: (1) novel deterministic or randomized numerical methods for the scalable solution of large-scale, linear and nonlinear systems of equations, including those solution methods that take into consideration the possibilities brought about by future high performance computing (HPC) architectures; (2) optimization techniques and next-generation solvers; (3) numerical methods for modeling multiscale, multi-physics, or multi-component continuous or discrete systems that span a wide range of time and length scales; (4) methods of simulation and analysis of systems that account for the uncertainties of the systems, or are inherently stochastic or uncertain; (5) innovative approaches for analyzing, extracting insight from, or reducing large-scale data sets; and (6) foundational research in scientific machine learning and artificial intelligence (AI) as a cross-cutting area of interest for enabling greater adaptivity, automation, and predictive capabilities in scientific computing. Application ideas that include collaborations with underrepresented scientific computing researchers and institutions are also a priority for DOE and SC. See <https://science.osti.gov/SW-DEI>.

Submission of preliminary research descriptions (e.g., pre-applications, white papers) is strongly encouraged. They will be reviewed for responsiveness of the proposed work to the research topics. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice. You must send an email to a Subprogram Contact for information regarding format and content.

Subprogram Contacts:

- William Spotz, [William.Spotz@science.doe.gov](mailto:William.Spotz@science.doe.gov)
- Steven Lee, [Steven.Lee@science.doe.gov](mailto:Steven.Lee@science.doe.gov)
- Website: <https://science.osti.gov/ascr/Research/Applied-Mathematics>

2. **Computer Science** - The Computer Science research program supports research that enables computing and networking at extreme scales and the understanding of extreme scale, or complex data from both simulations and experiments. It aims to make high performance scientific computers and networks highly productive and efficient to solve scientific challenges while attempting to reduce domain science application complexity as much as possible. The computer science program does this in the context of sharp increases in the heterogeneity and complexity of computing systems; the need to integrate simulation, data analysis, and other tasks seamlessly and intelligently into coherent and usable workflows; and the challenges posed by highly novel computing platforms, such as neuromorphic and quantum systems.

Priority interests for the program include the following. Applications are not restricted to a single topic and may span several topics.

- Data analysis and visualization
- Continuum Computing
- Storage Systems and I/O
- Programming Models, Environments, and Portability
- Operating and Runtime Systems
- Performance Portability and Co-design
- Distributed Scheduling and Resource Management
- Network-Offloaded Acceleration for Distributed/Parallel Computing
- Computer Science Fundamentals Accounting for Thermodynamics and Energy
- Participation in International Standardization
- Activities Supporting Career Development, and Broadening Participation, in Computer-Science Research

Subprogram Contacts:

- Margaret R. Lentz, [Margaret.lentz@science.doe.gov](mailto:Margaret.lentz@science.doe.gov) , Data analysis and visualization
- Hal Finkel, [Hal.Finkel@science.doe.gov](mailto:Hal.Finkel@science.doe.gov) , Storage Systems and I/O (SSIO); programming models, environments, and portability; operating and runtime systems; performance portability and co-design; distributed scheduling and resource management
- Hal Finkel, [Hal.Finkel@science.doe.gov](mailto:Hal.Finkel@science.doe.gov) , and Margaret Lentz, [Margaret.Lentz@science.doe.gov](mailto:Margaret.Lentz@science.doe.gov) , Continuum computing, participation in international standardization and activities supporting career development, and broadening participation, in computer-science research
- Kalyan Perumalla, [Kalyan.Perumalla@science.doe.gov](mailto:Kalyan.Perumalla@science.doe.gov) , Network-Offloaded Acceleration for Distributed/Parallel Computing
- Kalyan Perumalla, [Kalyan.Perumalla@science.doe.gov](mailto:Kalyan.Perumalla@science.doe.gov), Computer Science Fundamentals Accounting for Thermodynamics and Energy
- Marco Fornari, [Marco.Fornari@science.doe.gov](mailto:Marco.Fornari@science.doe.gov)
- Quantum Computing Websites:
  - <https://science.osti.gov/ascr/Research/Computer-Science>
  - <https://science.osti.gov/ascr/Community-Resources/Program-Documents>

3. **Computational Partnerships** - This activity supports the Scientific Discovery through Advanced Computing (SciDAC), program, which is a recognized leader for the employment of HPC for scientific discovery. Established in 2001, SciDAC involves ASCR partnerships with the other SC programs, other DOE program offices, and other federal agencies in strategic areas with a goal to dramatically accelerate progress in scientific computing through deep collaborations between discipline scientists, applied mathematicians, and computer scientists.

This activity also supports basic research to enable scientists to easily find and interact with unique scientific facilities and data, and to work with peers or facilities staff involved in the scientific discovery process. Research topics of interest include:

- Theories, algorithms, tools, and services needed to create diverse computing environments where multiple resources can be combined in unique ways to suit the needs of an individual science community.
- Mechanisms and theories to enable scientists to interact with their peers and technical staff who operate a distributed scientific facility.
- Advanced modeling and simulation methods and capabilities that can accurately predict and reliably validate the suitability and performance characteristics of large globally distributed infrastructures and workflows.

Subprogram Contacts:

- Lali Chatterjee, [Lali.Chatterjee@science.doe.gov](mailto:Lali.Chatterjee@science.doe.gov) , SciDAC Institutes and Partnerships
- David Rabson, [david.rabson@science.doe.gov](mailto:david.rabson@science.doe.gov) , SciDAC Institutes and Partnerships
- Marco Fornari, [marco.fornari@science.doe.gov](mailto:marco.fornari@science.doe.gov) , Computational Partnerships
- Website: <https://science.osti.gov/ascr/Research/scidac>

4. **Advanced Computing Technologies (ACT)** - This activity supports quantum computing and networking efforts and Research and Evaluation Prototypes (REP). The REP activity addresses the challenges of next generation computing systems. By actively partnering with the research community, including industry and Federal agencies, on the development of technologies that enable next-generation machines, ASCR ensures that commercially available architectures serve the needs of the scientific community. The REP activity also prepares researchers to effectively use future generation of scientific computers, including novel technologies, and seeks to reduce risk for future major procurements.

Additionally, this subprogram provides graduate research training for the next generation of scientists as well as activities supporting career development, and broadening participation, in high-end computational science.

Research topics currently of interest for ACT include:

- Research focused on information processing and computation systems for emerging computing technologies (excluding quantum computing) including hardware architectures, accelerators, development of programming environments, languages, libraries, compilers, simulators, and research and development on their algorithms for physical simulation.
- Cybersecurity for scientific computing integrity: research on security techniques appropriate for open scientific environments, with a focus on ensuring scientific integrity in the context of extreme scale high performance computing and other SC Scientific User facilities to deliver means that assure trustworthiness within open high-end networking and data centers.
- Machine learning: Scalable software, methods, and techniques that ensure algorithm scalability to extreme scales and applications that are generalizable to scientific computing applications and operation of HPC systems.
- Neuromorphic computing: Specific to HPC-enabled modeling and simulation of computing architecture at extreme scales for generalizable applications of the proposed approach.
- Advanced wireless for science focusing on communications that cover higher frequencies, THz, of 5G+ or WiFi6+ and software defined capabilities. The expanding national rollout of advanced wireless networks is creating opportunities for scientific applications.
- Microelectronics for scientific computing: For continued advances in computing technologies, a fundamental rethinking is needed of the science behind computing processor synthesis, placement, architectures, and algorithms. No longer can the approach be modular and linear, as it has been in the past. Rather, these advances must be developed collectively, in a spirit of co-design, where each scientific discipline informs and engages the other to achieve orders of magnitude improvements in system-level performance.

- Adaptation of promising new quantum computing technologies for testbed use and theoretical studies related to assessing capabilities of near-term quantum computers.
- The maintenance and improvement of the software ecosystem, including that developed through the Exascale Computing Project (ECP), which provides shared software packages, novel evaluation systems, and applications relevant to the science and engineering requirements of DOE, in order that the full potential of the current and future computing systems deployed by DOE can be continuously realized.

Proposed research in quantum computing should focus on applications of quantum computing relevant to the SC and on devices that are already available or that become available during the term of the award rather than large-scale, high-fidelity, fault-tolerant machines.

Submission of preliminary research descriptions (e.g., pre-applications, concept papers) is strongly encouraged. They will be reviewed for responsiveness of the proposed work to the research topics. Send an email to a Subprogram Contact for information regarding format and content.

Subprogram Contacts:

- Robinson Pino, [Robinson.Pino@science.doe.gov](mailto:Robinson.Pino@science.doe.gov) , microelectronics, neuromorphic and heterogeneous computing architectures, advanced wireless, machine learning, and cybersecurity
- Claire Cramer, [Claire.Cramer@science.doe.gov](mailto:Claire.Cramer@science.doe.gov) , quantum computing research and evaluation prototypes
- Hal Finkel, [hal.finkel@science.doe.gov](mailto:hal.finkel@science.doe.gov) ; William Spatz, [William.Spatz@science.doe.gov](mailto:William.Spatz@science.doe.gov) ; David Rabson, [david.rabson@science.doe.gov](mailto:david.rabson@science.doe.gov) ; Robinson Pino, [Robinson.Pino@science.doe.gov](mailto:Robinson.Pino@science.doe.gov) , maintenance and improvement of the software ecosystem
- Christine Chalk, [Christine.Chalk@science.doe.gov](mailto:Christine.Chalk@science.doe.gov) , Graduate research training and broadening participation
- Website: <https://science.osti.gov/ascr/>

Link to Additional Information: <https://science.osti.gov/ascr>

## **7. Unveiling Health and Healthcare Disparities in Non-Communicable and Chronic Diseases in Latin America: Setting the Stage for Better Health Outcomes Across the Hemisphere (R01 - Clinical Trials Not Allowed), NIH**

**Application Deadlines:**

- **Letter of Intent: Thirty (30) days prior to the application submission deadline.**
- **Full Proposal: February 05, 2024**

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

This NOFO will support innovative, collaborative, and interdisciplinary research focused on clinical epidemiology, evaluation of public and/or health care policies, and validation of measurements that address health and health care disparities related to NCDs with the highest disease burden and mortality in Latin America and among U.S. Hispanics/Latinos. Those NCDs include obesity, diabetes and related complications, cardiovascular and cerebrovascular diseases, hypertension, hypercholesterolemia/dyslipidemia, cancer, chronic lung disease (including asthma), chronic kidney disease, osteoarthritis, as well as chronic liver disease and cirrhosis. In addition, sleep disordered breathing, cognitive impairment and dementia, geriatric conditions and longevity, and mental and behavioral health conditions have been increasingly studied in Hispanic/Latino persons in the U.S. and throughout Latin America, yet their diagnosis is often delayed. Considering the significant incidence of both fatal and non-fatal interpersonal violence across Latin America and U.S. Hispanic/Latino communities, research in this topic is also of interest. Although most studies on NCDs have focused on adults, some studies have highlighted the increasing prevalence of children with chronic diseases and their unique needs. Therefore, children will be included in this initiative.

The initiative will support the analysis of existing health care datasets and health care systems to explore health disparities within the context of clinical/health services and/or health care systems. The evaluation of existing interventions

integrated into health care and/or community settings and how health equity is attained is of primary interest. The evaluation and validation of clinical/health services epidemiology metrics and measurements, especially focused on quality of clinical data from underrepresented groups, including Indigenous and Afro-Latino populations, and those living with low income and low resources are a priority. The evaluation of the impact of health care and/or public policies (e.g., policies addressing specific health risk factors outside the health care context, or sociopolitical policies that could impact funding and access to health care services) on community and/or patient health outcomes and health/health care disparities is also a priority. Such evaluation would inform research findings, and not advocate for specific policies. Studies that incorporate comparative analyses involving more than one Latin American country and/or of available data from U.S. Hispanic/Latino populations are also of interest. Study methods could include retrospective and/or prospective data analyses (multi-component or multi-level), natural experiments, and mixed-methods studies, and other methods appropriate for the evaluation of clinical/health outcomes, interventions, health care systems, or policies.

Projects will include studies conducted in Latin American countries where Spanish is the main language. **Studies performed in countries (including Puerto Rico) more highly represented in the U.S. Hispanic/Latino population will be prioritized.** Puerto Rico would be considered both a U.S. territory and part of Latin America. Research teams are expected to include both U.S.-based and Latin America-based investigators; Puerto Rico-based teams are not required to include investigators from other U.S.-based institutions. U.S.-based institutions -including Puerto Rico-will be the award recipients, but the proportion of the budget and research activities would be significantly larger for Latin America-based institutions (in the range of 30% to U.S.-based institutions and 70% to Latin America-based institutions), where the majority of the research is expected to be conducted. Research teams are also expected to include at least one PI or MPI from institutions in Latin America. The expectations regarding the research teams' composition are based on the ability and experience of local investigators to facilitate studies involving populations with whom they are acquainted in the geographic areas of interest, and who would have a better understanding of the health conditions, public health and healthcare needs, healthcare systems, or social determinants of health -including culture and language-in the locations where the studies will take place. Collaborations (e.g., consultative, or subject-matter expert role) with investigators or research teams from Latin American countries with low representation in the U.S. Hispanic/Latino population are welcome.

Specific Areas of Interest include but are not limited to studies that:

- Explore and describe access to and utilization of health services, quality of care and associated clinical and health outcomes related to NCDs, especially among underserved populations including Indigenous, Afro-Latino, and rural and suburban communities. Special focus on factors that mediate or facilitate clinical decision-making, factors that mediate, facilitate, or disrupt the patient-clinician communication/relationship, and the role and effectiveness of different health care system/model components on quality of care are of interest.
- Explore and describe **clinical disease phenotypes** (for example, unusual or newly recognized clinical manifestations) of NCDs (e.g., diabetes, hypertension, cancer, heart failure, long COVID-19, asthma, chronic obstructive pulmonary disease, chronic kidney disease, liver disease, dementia, and other neurodegenerative disorders, and other chronic diseases), leading to more accurate and timely diagnoses, tailored and effective prevention and care and/or reducing health/health care disparities.
- Explore the risk profile and burden of **interpersonal violence** on health, that could lead to potential **interventions**.
- Evaluate **emerging lessons and best practices** from existing primary care models and health care settings interventions on the optimal integration of guidelines of diagnosis and care for NCDs in primary care setting. Lessons and best practices based on location (e.g., urban, rural) and resources are of interest.
- Evaluate interventions at the clinical (including clinical trials and patient-level interventions embedded within health care settings), health care system (healthcare models, policy change, interventions in health care system's components), or community level on the optimization of health outcomes (e.g., attaining recommended goals) and the reduction of health or health care disparities.
- Evaluate the **impact of health, healthcare and/or public policies** (including policies in U.S. territories) on patient-level clinical outcomes (including risk factors), healthcare systems (including models of healthcare delivery), or population-level health outcomes. The validation and/or evaluation of metrics to assess impact are



encouraged. Comparisons across countries, and/or between different geographic locations (e.g., urban, suburban, rural) are also of interest.

- Assess the **conceptualization of community and the contextualization of social determinants of health (SDoH)**, and how these can be optimally integrated into community-engaged research and the assessment of health/health care disparities across the region.
- Evaluate the **effective integration of social services** (e.g., food security, housing, education) with healthcare and its impact on health disparities and health outcomes.
- Assess the **impact of interpersonal violence on collective mental health**, and potential community-level interventions to reduce its impact on equitable health care access and optimal health care quality.
- Explore the **conceptualization of race, ethnicity, and colorism** throughout Latin America and among U.S. Hispanics/Latinos, and how it relates to racism and discrimination, SDoH, health care and health outcomes to inform how to intervene to improve health outcomes.
- Evaluate **interventions or policies that address discrimination, racism, oppression, and mistreatment** experienced by Indigenous, Afro-Latino, and other marginalized and underserved populations across the region and how they relate to health disparities and health outcomes.
- Explore mechanisms **underlying aging and age-related changes, resilience and protective health factors**, and specifically related to mortality or longevity.
- Validate and/or evaluate metrics to better capture clinical/phenotypic data representative of diverse populations, including Indigenous and Afro-Latino populations, to improve knowledge of health disparities and to inform policy interventions.
- Explore strategies that strengthen relationships between evidence producers and decision makers, and the resulting impact of research findings on health equity.
- Assess **health care systems** effective management of **public health emergencies, disasters, and other humanitarian crises**. Studies that assess community vulnerability and resilience to these events are also of interest.
- Evaluate policies that integrate a holistic health approach that recognizes the interconnection between people and the planet, including Indigenous knowledge systems.
- Include comparative studies between communities in Latin America and U.S. Hispanics/Latinos on any of the research areas of interest described above.

*NIMHD will hold a pre-application informational webinar for this NOFO. Date, time, and other details will be posted at: <https://www.nimhd.nih.gov/news-events/conferences-events/>.*

**Link to Additional Information:** <https://grants.nih.gov/grants/guide/pa-files/PAR-23-303.html>

## **8. Topical Workshops, Symposiums, and Conferences (TWSC-24) in Space and Earth Sciences and Technology, NASA**

### **Application Deadlines:**

- **Preliminary Proposal: November 30, 2026**
- **Full Proposal: May 8, 2024**

**Award Amount: from low thousands of dollars to \$750,000, depending on the event type**

Through the “Topical Workshops, Symposiums, and Conferences (TWSC) in Space and Earth Science and Technology” notice of funding opportunity (NOFO), the Science Mission Directorate (SMD) invites proposals from eligible organizations for their events, including asynchronous and virtual workshops, etc. TWSC’s goal is to contribute to SMD’s science, technology, and exploration research goals and related activities, such as but not limited to the NASA 2022 Strategic Plan. TWSC may fund large and small meetings, retreats, seminars, symposiums, workshops or other events that have as one purpose 1) to disseminate technical information beyond NASA and SMD; or 2) to facilitate research networks and/or research administration capabilities at entities not previously funded by NASA.

This NOFO broadens TWSC’s historic scope beyond a research dissemination event to bring together existing, future, or

potential members of scientific communities relevant to NASA. An event’s participants and speakers may include individuals who are not full-time practicing scientists, engineers, or technologists. Events may have a purpose of cultivating relationships between science and society. Events may have a purpose of developing research relationships across the boundaries of the sciences and the humanities.

An event’s goal, objective, or allowable focus may enable science that addresses the following non-exhaustive list of allowable topics, or enabling activities, and may include, for example, items A through E:

- A. Encourage and facilitate the use of SMD mission data.
- B. Provide scientific/technical training for current investigators.
- C. Nurture or create investigator networks through the open exchange of ideas.
- D. Introduce current or future or potential investigators, regardless of degree-status, to new subject areas or research techniques.
- E. Coordinate, communicate, and engage with i) minority serving institutions (MSI) such as those listed at <https://msiexchange.nasa.gov/>; ii) community-based organizations; and iii) civil rights organizations that advance racial equity and support underserved communities, including individuals who belong to these communities, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders, and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty, inequality, or systemic barriers to science engagement, education, and/or careers.

A TWSC proposal may focus 1) on one or more of the enabling activities specified by letters A through E; 2) on other types of science or technical enabling approaches not listed, or 3) a combination of both. A proposal optionally may have a goal of developing a public output that is a prerequisite to achieving SMD roadmaps, decadal surveys, etc.ii TWSC proposals may not propose an “output” or “input” for delivery to NASA for something NASA needs to conduct its operations.

*TWSC has no dedicated funding, so before submitting to this NOFO proposers first contact a NASA division, office, or program that may have funding.*

**Link to Additional Information:** <https://nspires.nasaprs.com/external/solicitations/summary.do?solId={805EEF3B-DC64-A447-3EAD-66D23A9501EE}&path=&method=init>

## **9. Preservation Assistance Grants for Smaller Institutions, NEH**

**Application Deadlines: January 11, 2024**

**Award Amount: up to \$10,000 direct and indirect costs for a project period of one year to eighteen months**

Preservation Assistance Grants help small and mid-sized organizations preserve and manage humanities collections, ensuring their significance for a variety of users, including source communities, humanities researchers, students, and the public, by building their capacity to identify and address physical and intellectual preservation risks. The program encourages applications from institutions that have never received an NEH grant as well as community colleges, minority serving institutions (Hispanic-Serving Institutions, Historically Black Colleges and Universities, Tribal Colleges and Universities), Native American tribes and tribal organizations, and Native Alaskan and Native Hawaiian organizations. Furthermore, NEH encourages applicants whose organizations or collections represent the contributions of historically excluded communities.

The Preservation Assistance Grants for Smaller Institutions program focuses on foundational activities in preservation and management of collections. Collections may include archives and manuscripts, prints and photographs, moving images, sound recordings, architectural and cartographic records, decorative and fine art objects, textiles, archaeological and ethnographic items, tribal collections, material culture, historical objects, special collections of books and journals, and digitized and born-digital materials. Supported activities should fall into the following general categories, though the lists of possible activities are not exhaustive:

## **Preservation Assessments and Planning**

- General preservation assessments
- Digital preservation assessments
- Conservation assessments
- Assessing environmental impacts of lighting systems or aging mechanical systems
- Assessing collection documentation needs to identify an appropriate collection management system.
- Foundational conversations and/or consultations with source communities represented in collections to determine culturally appropriate preventive conservation practices and/or initiate or develop accurate vocabularies and/or descriptions of collection items resulting in a processing guide or written report with actionable recommendations.
- Consultations with scholars and subject matter experts to initiate or develop accurate vocabularies and/or descriptions of collection items resulting in a processing guide or written report with actionable recommendations.
- Development and revision of written plans, policies, and procedures such as emergency/disaster preparedness and response plans, digitization plans, storage plans, collection management plans, collecting plans, loan policies, and processing manuals.

## **Preventive Care**

- Purchase, shipping, and installation costs of storage and preservation supplies, including durable furniture and supplies (e.g., cabinetry, shelving units, storage containers, boxes, folders, and sleeves) for the purpose of rehousing collections for long-term storage or display, digital storage (e.g., external hard drives, RAID, NAS, LTO systems, and cloud based storage), and discrete and reversible units to improve the environment (e.g., portable dehumidifiers, air conditioning units, UV filtering shades, and HEPA vacuums). Project expenses such as storage furniture, UV filters, or discrete units for air conditioning must demonstrate that they will not make irreversible changes to buildings.
- Implementing and improving environmental monitoring and/or integrated pest management programs, including the purchase of necessary monitoring supplies and related tracking software.
- Implementing and/or piloting environmentally sustainable preventive care strategies, which may have been recommended in previous preservation assessments or by a consultant, such as addressing water runoff systems to prevent moisture impacts on collections spaces or creating preservation microclimates for vulnerable collections.
- Workshops and/or training for staff and volunteers that address preservation topics, which might include preservation and care of specific material types, care and handling of collections during rehousing and/or digitization, preservation standards for digital collections, disaster preparedness and response, integrated pest management, or an overview of the agents of deterioration.

## **Collections Management**

- Initial steps that improve the management of collections and knowledge of the contents of collections, such as location and format surveys, inventories, updating condition reports, and/or other preparatory steps toward description of collections.
- Workshops and/or training courses for staff and volunteers that address intellectual control topics such as best practices for arrangement, description, and cataloging of collections.

We encourage you to take advantage of the opportunity to hire a consultant to support and further develop your organization's capacity. Staff can also lead project activities, especially if they are implementing recommendations from a previous assessment or established frameworks. In all cases, you must demonstrate that project staff and consultants have the necessary background, skills, and training to perform the requested activities.

Applications can focus on discrete activities, such as an assessment or the development of a written plan, or a combination of connected activities, such as rehousing and updating collection inventory. If you have previously received a Preservation Assistance Grant, you may apply for another one to support the next phase of your preservation efforts. For example, after completing a preservation assessment, you might apply to purchase storage supplies and cabinets to

rehouse a collection identified as a high priority for improved storage. NEH will not give these proposals special consideration and will judge them by the same criteria as others in the competition.

*Pre-Application Webinar: November 3, 2023, 2:00 p.m. Eastern Time. To register go to:*

<https://events.gcc.teams.microsoft.com/event/a43df1b1-c62a-4871-8f5e-76874c8c7e7d@93b06459-c77d-44b6-af7f-e813cddcdcc3>

**Link to Additional Information:** <https://www.neh.gov/grants/preservation/preservation-assistance-grants-smaller-institutions>

## **10. Leveraging Extant Data to Understand Developmental Trajectories of Late Talking Children (R21 Clinical Trial Not Allowed), NIH**

**Application Deadline: February 07, 2024**

**Award Information: up to \$275,000 for a project period of two years**

The National Institutes of Health (NIH) Tackling Acquisition of Language in Kids (TALK) initiative seeks to support activities to better understand early language learning and delay. NIH TALK invites applications for research projects that will leverage existing data, share data with the broad research community through established data repositories, and/or enhance the discovery and use of shared data to aid in identifying patterns and predictors of developmental outcomes in late talking children, and exploring potential underlying mechanisms, risk factors, and sequelae.

The goals of this initiative are to improve the accessibility and usability of existing data to spark researchers to bring together data on different populations of late talking children and to analyze integrated data sets in novel ways to address broader questions about developmental trajectories in late talking children. These goals are to be accomplished through supporting three types of approaches: 1) data sharing: submitting data to existing data repositories for sharing with the broad research community or public; 2) secondary data use: data mining or analysis leveraging existing datasets to address novel questions related to development in late talking children; and 3) improving data utility: developing tools or implementing strategies that would increase the discoverability or use of shared data. This initial work is intended to create the foundation for future, targeted longitudinal research.

Activities that could be supported include, but are not limited to:

- Constructing de-identified, non-sensitive versions of restricted data sets for sharing with the public through established data repositories.
- Creating synthetic data based upon existing data that can be used for modeling purposes.
- Activities for making data ready for secondary analysis. These may include, for example, cleaning or filtering data; imputing missing data, as appropriate; data pre-processing; adoption of ontologies or other standards to improve interoperability with other data.
- Developing and sharing documentation, e.g., metadata that records the provenance, motivation, composition, collection process, recommended uses, and other relevant information for re-users of the data.
- Re-consenting participants in order for data to be made available through established data repositories.
- Harmonizing data and measures across multiple data sets (e.g., integrative data analysis).
- Integrating cross-sectional datasets to provide insights to developmental trajectories.
- Exploring patterns in electronic health records.
- Transcribing existing language samples.
- Conducting more detailed coding of existing audio or video recorded samples.
- Developing tools for discovery and cataloging of extant datasets. Note: Data search activities alone are not sufficient and must be complemented with sharing and/or analytic activities.

These activities may overlap, and it would be possible for an application to include multiple aspects of the above listed. Types of data of interest include, but are not limited to: administrative data, survey data, results of assays conducted on

biospecimens, data from clinical trials, data from patient registries, and imaging data. Projects that include data from underserved or other communities who are at increased risk for late talking and those that include longitudinal data are especially welcome.

All eligible applications must:

- Describe how the proposed work will advance research on and understanding of late talking development trajectories.
- Include only data from research studies using humans (no animal models).
- Propose data sharing, secondary data analysis, and/or development and implementation of strategies to improve the utility of data sets that include late talking children, those at-risk for late talking, or those with a history of late talking. Projects that propose strategies to improve data utility must also propose data sharing and/or secondary data analysis to be responsive to this notice of funding opportunity (NOFO).
- All applications submitted in response to this funding opportunity must include a Data Management and Sharing Plan (Plan). The Plan should outline how scientific data and any accompanying metadata will be managed and shared and is expected to address the Elements as described in Supplemental Information to the NIH Policy for Data Management and Sharing: Elements of an NIH Data Management and Sharing Plan (NOT-OD-21-014).

**Link to Additional Information:** <https://grants.nih.gov/grants/guide/pa-files/PAR-24-045.html>

## **11. Biological and Environmental Research (BER), Department of Energy**

**Application Deadline: open until September 30, 2024**

**Award Information: award size will depend on the number of meritorious applications and the availability of appropriated funds**

The mission of the Biological and Environmental Research (BER) program is to support transformative science and scientific user facilities to achieve a predictive understanding of complex biological, Earth, and environmental systems for clean energy and climate innovation.

The BER subprograms and their objectives follow:

- a. **Biological Systems Science** - Research is focused on using DOE's unique resources and facilities to achieve a predictive systems-level understanding of complex biological processes to advance DOE missions in energy and the environment. By integrating genome science with advanced computational and experimental approaches, the subprogram seeks to gain a predictive understanding of living systems, from microbes and microbial communities to plants and ecosystems. This foundational knowledge enables the design and reengineering of microbes and plants underpinning a broad clean energy and bioeconomy portfolio, including improved biofuels, bioproducts and biomaterials, improved carbon management and storage capabilities, and improved understanding of the biological cycling and transformation of nutrients, materials, and contaminants in the environment.

The major research objectives are to:

1. Determine the molecular and regulatory mechanisms governing genotype to phenotype translation needed to predictively understand genome-scale functional properties of microbes, plants, and microbiomes relevant to BER's research efforts; develop experimental "-omics" capabilities and enabling technologies needed to achieve a dynamic, systems-level understanding of cellular and microbiome functions; and develop the knowledgebase, computational infrastructure, and modeling capabilities to advance predictive understanding and design of biological systems for a variety of bioenergy, environmental and synthetic biology applications underpinning a broader, more carbon neutral bioeconomy.
2. Develop the advanced characterization, measurement and imaging technologies (classical and quantum science-based) to visualize the spatial and temporal relationships of key metabolic processes governing phenotypic expression in plants and microbes, information crucial for developing an understanding of the



impact of various environmental and/or biosystems design impacts on whole cell or community function.

Subprogram Contact:

- Robert (Todd) Anderson, [todd.anderson@science.doe.gov](mailto:todd.anderson@science.doe.gov)
- Website: <https://science.osti.gov/ber/Research/bssd>

- b. **Earth and Environmental Systems Sciences** - The Earth and Environmental Systems Sciences subprogram supports fundamental science and research capabilities that enable major scientific developments and enhanced predictability involving Earth system-relevant atmospheric, terrestrial, cryospheric, marine, and human system process and modeling research in support of DOE's mission goals for transformative science for energy and national security. This includes experimental and modeling research on components such as clouds, aerosols, precipitation, and turbulence interactions; experimental and modeling research involving terrestrial biogeochemistry, hydrology, ecology, coastal, and urban systems; modeling of marine systems; evaluation of component interdependencies under a variety of forcing conditions; quantification of vulnerability and resilience of the full suite of energy and related infrastructures as well as disadvantaged communities to extreme events; and novel uncertainty quantification methodologies.

The major research objectives are to:

1. Understand the physics, chemistry, and dynamics governing clouds, aerosols, and precipitation interactions, with a goal to advance the predictive understanding of the Earth system.
2. Improve the understanding and representation of physical and hydro-biogeochemical processes that govern terrestrial surface and subsurface ecosystems, that in turn can be represented in system models to improve confidence in the models and their projections.
3. Develop, evaluate and analyze complex models of Earth and environmental systems that include a dynamic human component, in order to understand trends, variability, change, and patterns of extremes and impacts, including improved understanding of system component interactions and co-evolution of the systems.

Subprogram Contact:

- Gerald (Gary) Geernaert, [Gerald.Geernaert@science.doe.gov](mailto:Gerald.Geernaert@science.doe.gov)
- Website: <https://science.osti.gov/ber/Research/eessd>

**Link to Additional Information:** <https://science.osti.gov/ber>

## **12. Research Centers in Minority Institutions (RCMI) (U54 - Clinical Trial Optional), NIH**

**Application Deadline:**

- **Letter of Intent: November 18, 2023**
- **Full Proposal: December 18, 2023**

**Anticipated Funding Amount:**

- **Research Projects in all three focus areas: up to \$3,500,000 in annual direct costs**
- **Research Projects in two focus areas: up to \$2,500,000 in annual direct costs**
- **Research Projects in one focus area: up to \$1,500,000 in annual direct costs**

NIH established the Research Centers in Minority Institutions (RCMI) program in 1985 in response to Congressional interest in expanding the national capability for research in the health sciences by providing support to institutions that offer doctoral degrees in the health professions or health-related sciences and have a documented historical mission or commitment to educating underrepresented students or have a record of providing health care services to medically underserved communities.

The primary goals of RCMI specialized center awards are to:

1. enhance institutional research capacity to conduct world-class basic biomedical, behavioral, population and/or clinical/health services research
2. enable all levels of investigators at the recipient institution to become more successful in obtaining competitive extramural support, especially from NIH, for research on diseases and conditions that disproportionately impact populations that experience health disparities
3. foster institutional environments conducive to research career development and enhancement for post-doctoral fellows, junior faculty, and other early-stage investigators
4. enhance the tools for and conduct of research generally and specifically for improving minority health and reducing health disparities
5. establish sustainable partnerships with community-based organizations to promote research efforts and the dissemination of research findings

Centers are expected to support research projects with an explicit focus on one or more of the following scientific areas: basic biomedical research, behavioral research or population science, and clinical/health services research. Projects in the behavioral or population science and clinical/health services research focus areas are expected to emphasize minority health and health/healthcare disparities. Accordingly, such projects must include a focus on the health of one or more racial or ethnic minority groups that experience health and or health care disparities: Blacks or African Americans, Hispanics or Latinos, American Indians or Alaska Natives, Asian Americans, Native Hawaiians and other Pacific Islanders, and persons who identify as being of more than one race. All studies on racial or ethnic minority populations must also include a focus of socioeconomic status. Other NIH-designated populations with health disparities, medically underserved or rural populations, and sexual and gender minorities, may also be included from the intersectional perspective of race/ethnicity and socioeconomic status.

Information about the research priorities of NIMHD is available at the following link: NIMHD Research Framework, <https://nimhd.nih.gov/about/overview/research-framework/nimhd-framework.html>. Research may focus on risk or protective factors for conditions where outcomes may be worse or better, respectively, compared to the general population, including projects that evaluate mechanisms and interventions to sustain or improve a health advantage. Research may also examine mechanisms and develop and evaluate interventions to reduce health and/or health care disparities within a particular group (or within a health care setting providing care), defined as a health difference that adversely affects disadvantaged populations based on one or more of the following categories of health outcomes:

- Higher incidence/prevalence.
- Higher prevalence of risk factors, unhealthy behaviors, or clinical measures in the causal pathway of a disease outcome.
- Poorer health related quality of life and/or daily functioning using standardized self-report measures.
- Premature and/or excessive mortality in diseases where populations differ.
- Burden of disease measured by metrics such as Disability-Adjusted Life Years (DALYS).
- Health services outcomes related to inadequate or suboptimal or untimely access and quality of health care for medical and/or surgical conditions including hospitalization and use of services.

Minority health and health disparities research is a multi-disciplinary field of study devoted to gaining greater scientific knowledge about the influence of health determinants and defining mechanisms that lead to disparities in outcomes and how this knowledge is translated into interventions to reduce or eliminate adverse health differences.

The RCMI program allows flexibility at the applicant institution with respect to the types of research resources required to accomplish research and investigator development goals. The most important criterion for inclusion of any component in the proposed Center is the extent to which the activity or resource will enable the institution to achieve the stated goals.

The following components are required for each Center:

- Administrative Core
- Research Capacity Core
- Investigator Development Core
- Community Engagement Core
- Research Project(s): Maximum three projects

In addition to these required components, applications may also include the Recruitment Core.

*NIMHD will conduct a Technical Assistance webinar for prospective applicants on November 16, 2023 at 2:00 PM EST. The webinar connections will open 15 minutes in advance of the start time. Prospective applicants are encouraged to send questions, preferably at least 24 hours prior to the webinar, to the Scientific/Research Contact, Dr. Nathan Stinson, at [stinsonn@mail.nih.gov](mailto:stinsonn@mail.nih.gov) and/or Dr. Rina Das, at [dasr2@mail.nih.gov](mailto:dasr2@mail.nih.gov).*

**Link to Additional Information:** <https://grants.nih.gov/grants/guide/rfa-files/RFA-MD-24-001.html>

### **13. Landmarks of American History and Culture, NEH**

#### **Application Deadlines:**

- **Optional Draft: January 5, 2024**
- **Full Proposal: February 14, 2024**

**Award Information: up to \$190,000 for a period of performance of 15 months**

This notice solicits applications for the Landmarks of American History and Culture (Landmarks) program for K-12 Educators and Landmarks for Higher Education that will take place in 2025. The program supports a series of one-week residential, virtual, and combined format workshops across the nation that enhance how K-12 educators and higher education faculty and humanities professionals incorporate place-based approaches to humanities teaching and scholarship. Landmarks workshops situate the study of topics and themes in the humanities within sites, areas, or regions of historic and cultural significance to expand participants' knowledge of and approaches to teaching diverse histories, cultures, and perspectives in the United States and its jurisdictions.

Landmarks workshops:

- offer participants enhanced knowledge of content through humanistic inquiry, experiential learning, discussions, readings, lectures, meetings with community members, and multimedia presentations
- include place-based learning activities, such as visits to museums, libraries, archives, markers, sites, monuments, memorials, national parks, cultural organizations, historic homes and buildings, walking tours, and public performances
- consider how monuments, markers, and memorials interpret events, eras, individuals, and/or groups at national, regional, and local levels
- examine the significance of memory, unmarked sites of cultural and historical significance, and change over time in a place or region
- explore physical, natural, and/or cultural landscapes while studying art history, literature, environmental humanities, geohumanities, public history, architecture, and related fields
- engage in the design of public humanities and experiential learning activities such as collecting oral histories, working with digital mapping resources, and developing collaborations with community members or local organizations

#### **Project Design**

Each Landmarks workshop must include two separate sessions of five to seven days each for two different groups of participants (week one and week two). The content, presenters, site visits, activities, and readings should be substantively

the same for each session.

You must select one of the following formats:

- **Residential:** All participants attend for the duration of the workshop at the host site.
- **Virtual:** All participants attend for the duration of the workshop using an online platform. This can include synchronous and asynchronous sessions.
- **Combined Format:** All participants attend a portion of the workshop virtually and a portion of the workshop at the host site. Virtual and residential portions occur at different times, but all participants must attend the same format simultaneously.

You must design your Landmarks workshops and recruitment plan for a national audience of participants from across humanities disciplines and professions who work in K-12 education, post-secondary education, and/or at humanities organizations. You must identify a primary audience for your workshop of either K-12 educators or higher education faculty and/or humanities professionals.

*NEH will have a Live Questions and Answers on December 6, 2023, at 12:00pm Eastern Time.*

**Link to Additional Information:** <https://www.neh.gov/grants/education/landmarks/highered>

## **14. Food and Agriculture Service-Learning Program, USDA/NIFA**

**Application Deadlines: December 7, 2023**

**Award Information: up to \$240,000 for a project period of two years**

The purpose of FASLP (Assistance Listing 10.522) is to increase knowledge of agriculture and improve the nutritional health of children. The primary goals of FASLP are to:

1. Increase capacity for food, garden, and nutrition education within host organizations or entities and school cafeterias and in the classroom.
2. Complement and build on the efforts of the farm to school programs implemented under section 18(g) of the Richard B. Russell National School Lunch Act [(42 U.S.C. 1769(g))].
3. Complement efforts by the Department and school food authorities to implement the school lunch programs established under the Richard B. Russell National School Lunch Act (42 U.S.C. 1751 et seq.) and the school breakfast program established by section 4 of the Child Nutrition Act of 1966 (42 U.S.C. 1773).
4. Carry out activities that advance the nutritional health of children and nutrition education in elementary schools and secondary schools (as those terms are defined in section 9101 of the Elementary and Secondary Education Act of 1965 (20 U.S.C 7801)).
5. Foster higher levels of community engagement and support the expansion of national service and volunteer opportunities.

FASLP supports projects that bring together stakeholders from the distinct parts of the food system to increase the capacity for food, garden, and nutrition education within host organizations or entities, such as school cafeterias and classrooms, while fostering higher levels of community engagement between farms and school systems. The goal of these efforts is to not only increase access to school meals for underserved children, but also to dramatically improve their quality and to decrease food loss and waste through student, school, and community engagement.

FASLP is also focused on the development of leadership skills, knowledge, and qualities necessary to prepare students for food and agricultural and related careers in the private sector, government, and academia. Specific activities may include:

1. Developing practical applications to increase understanding of leadership roles, including critical thinking, problem solving, and communication skills; ethics and professionalism; and working in teams.

2. Connecting the academic classroom experiences with daily leadership roles and organizational activities.
3. Providing opportunities for mentoring and shadowing.
4. Organizing leadership academies, workshops, trainings, etc.

FASLP projects are intended for eligible applicants to expand existing farm-to-school initiatives and other food and agriculture experiential learning initiatives, such as training and technical assistance, evaluation activities, curriculum development, or incorporate farm to school strategies in trainings and professional opportunities along with working closely with agricultural producers in the local and regional areas with primary and secondary schools.

Preference will be given to applicants who submit FASLP proposals meeting priorities of 7 U.S.C. 7633(c)(2) that:

1. Hold a proven track record in carrying out the purposes described in Part I, B of this RFA.
2. Work in underserved rural and urban communities.
3. Engage children in experiential learning about agriculture, gardening, nutrition, cooking, where food comes from, and how to reduce food loss and food waste.
4. Facilitate a connection between elementary schools and secondary schools and agricultural producers in the local and regional area.

Proposals may include the following activities, but are not limited to:

1. Expanding farm-to-school programs beyond lunch to bring local or regional food products into the School Breakfast program.
2. Operating service projects (e.g., AmeriCorps, VISTA, Food Corps, local service corps programs, etc.) that support farm to school initiatives in schools.
3. Ready producers to participate in school food service by providing training on Good Agricultural Practices (GAP) and other food safety-related topics.
4. Providing technical support in the form of face-to-face and/or virtual trainings, consultations, webinars, etc.
5. Developing promotional campaigns in support of farm-to-school initiatives.
6. Expanding strategic planning efforts to expand or coordinate efforts across multiple school districts.
7. Conducting farm-to-school evaluation efforts.
8. Establishing new or strengthening existing community partnerships (e.g., working with personnel to identify appropriate suppliers, etc.).
9. Encouraging increased consumption of fruits and vegetables through promotional activities, taste tests, and other activities.
10. Expanding experiential or agriculture-based learning opportunities, such as the creation of school gardens, support to ag/food clubs, or increased exposure to on-farm activities.
11. Developing and evaluating integrated curriculum to reinforce food and nutrition-based learning throughout the school environment.

All projects must involve underserved rural and/or urban communities and facilitate a connection between elementary schools and secondary schools with agricultural producers in the local and regional area.

All applicants are also encouraged to incorporate food loss and waste efforts into their FASLP projects. Examples might include how projects will engage in and scale up food loss and waste reduction efforts by 1) increasing students' capacity for learning how to prevent food waste; 2) changing the school environment; and/or 3) using cafeterias, other parts of school grounds, and/or other FASLP projects areas to reduce food loss and waste.

Applicants are also encouraged to seek and create partnerships with public or private, nonprofit or for-profit entities, including links with academic institutions (including minority-serving colleges and universities), and/or other appropriate professionals, community-based organizations, school districts, and local and state government entities. When planning collaborations. Award recipients may subcontract to organizations not eligible to apply provided such organizations are necessary for the successful completion of the project.



Applicants for FASLP-P projects must:

1. Have experience in the area of (i) community food work, including the provision of food to people in underserved communities, including farm to school programs, and the development of new markets in underserved communities working closely with agricultural producers; (ii) job training and business development activities, curriculum and development for food-related school activities in low-income communities; or (iii) efforts to reduce food insecurity in the community, including food distribution, improving access to services, or coordinating school services and programs; (iv) applicants must show evidence of existing community support and engagement with school districts and agricultural producers via no less than three letters of support.
2. Demonstrate competency to implement a project, conduct an evaluation, provide fiscal accountability, collect data, and prepare reports and other necessary documentation.
3. Demonstrate competency in the implementation of a food and agriculture and/or school experiential service-learning program.
4. Demonstrate a willingness to share information with researchers, evaluators, practitioners, and other interested parties, including a plan for dissemination of results.
5. Commit to collaborating with the FASLP-TA grantee, where indicated, to ensure that all FASLP-TA deliverables are met.
6. Commit to collaborating with one or more local partner organizations to achieve at least one hunger-free community's goal. (Steps for a Hunger-Free Community (usda.gov)).
7. Include a Logic Model.
8. Include a Data Management Plan

**Link to Additional Information:** <https://www.nifa.usda.gov/grants/funding-opportunities/food-agriculture-service-learning-program>

## **15. F24AS00431 FY24 Recovery Implementation, Fish and Wildlife Service**

**Application Deadline: September 30, 2024**

**Award Information: up to \$2,000,000**

The purpose of the Endangered Species Act (ESA) is to provide a means by which the ecosystems upon which endangered and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take appropriate steps to achieve the purposes of treaties and conventions set forth in the ESA. Section 2(a)(5) of the ESA authorizes the use of Federal financial assistance to encourage the States and other interested parties to develop and maintain conservation programs to safeguard the Nation's heritage in fish, wildlife and plants for the benefit of all citizens.

The U.S. Fish and Wildlife Service (Service) Ecological Services Program provides Federal financial assistance on a competitive basis to states, landowners, educators, non-governmental organizations, researchers, and other potential partners to secure information about endangered, threatened or candidate species, to aid in the recovery of these species, pursuant to the Endangered Species Act, and to help conserve the ecosystems upon which these species depend. Program Objective: The principal objective of this Recovery Implementation funding opportunity is to support the implementation of priority recovery actions for federally endangered and threatened species. The ESA conveys the importance of recovery plans as a central organizing tool for guiding each species' recovery process by requiring their development for every listed species. Recovery plans establish an overall recovery vision that, among other things:

1. Defines the point at which protections under the ESA are no longer needed,
2. Identifies and prioritizes the most effective and feasible suite of recovery actions that will promote species survival and recovery,
3. Provides the public and policy makers with an overall estimate of the time and cost to recover species, and the ability to measure success and resources needs, and
4. Aids the Service in working with others to improve the status for imperiled species.

Proposals will be prioritized based on the following:

1. Enhance partnerships with states, non-governmental organizations, private landowners, other Federal agencies, and others,
2. Leverage our resources and authorities with those of our partners, and
3. Highest priority will be given to projects that develop and implement management actions designed to have a direct impact on recovery of listed species (e.g., reduce or eliminate threats). Examples of such projects may include the following:
  - a. Stabilize endangered and threatened species on the brink of extinction by accomplishing Priority 1 and 2 Recovery Actions.
  - b. Achieve downlisting and delisting criteria by accomplishing Priority 3 Recovery Actions.
  - c. Contribute information on the species' current condition, changes from historical to current condition, or predict the species' response to environmental conditions or conservation efforts.
  - d. Reduce the extinction risk to the species, such that the future condition of the species is likely to improve in terms of representation, resiliency, and/or redundancy.

Actions may include, but are not limited to the following:

1. Implementing activities that conserve the species diversity as represented by genetic, geographic, or life-history variation, which conserve the species' adaptive capacity.
2. Implementing activities that improve demographic factors such as abundance, survival, productivity, and population growth rate, which enhance the species' ability to withstand stochastic disturbance events and persist at the population or meta-population scale.
3. Implementing activities that improve spatial structure, such as increased distributional extent and connectivity between populations, which minimizes the species' risk to catastrophic events.
4. Assessing the current condition of the species' population structure, distribution, abundance, demographic rates, diversity (ecological, genetic, life-history), and habitat.
5. Assessing changes from the historical to current condition.
6. Explaining the causes and effects of stressors and conservation efforts that have resulted in the current condition.
7. Predicting the species' response to a range of plausible future scenarios of environmental conditions and conservation efforts.

**Link to Additional Information:** <https://www.grants.gov/web/grants/view-opportunity.html?oppId=350612>

## **16. Information and Practice Needs Relevant to Late Talking Children (R21 Clinical Trial Not Allowed), NIH**

**Application Due Date: February 7, 2024**

**Award Budget: up to \$275,000 for a maximum period of two years**

The National Institutes of Health (NIH) Tackling Acquisition of Language in Kids (TALK) initiative seeks to support activities to better understand early language learning and delay. NIH TALK invites applications for research projects that aim to better understand the information and practice needs of caregivers, professionals, and other invested parties who support late talking children and to determine whether those needs are being effectively met. Community engaged research combined with rigorous qualitative research and diverse research teams are needed to enrich our understanding of how to get state-of-the-science information and practice to those who need it most to guide decisions about late talking children.

This funding opportunity aims to understand (1) the information and practice gaps that caregivers, professionals, and other invested parties face when making decisions and supporting late talking children; (2) how state-of-the-science information about developmental trajectories, potential outcomes, and evidence-based practice options for late talking children are being disseminated to caregivers, professionals, and other invested parties to effectively meet their needs. Resulting

findings should set a sufficient foundation for subsequent applications that would further engage invested parties to develop, evaluate, and/or implement state-of-the-science information and evidence-based practices to effectively guide caregivers, professionals, and other invested parties in supporting the success of late talking children.

### **Specific features of this funding opportunity**

Because of the focus on understanding the needs of caregivers, professionals and other invested parties, specific research features are needed to be responsive to this funding opportunity, namely community engagement and qualitative data.

- **Community engagement:** Community engaged research can take myriad forms but essentially involves the bidirectional relationship between community partners and the research team in guiding the research project. Community engaged research approaches have the potential to make research more relevant to the partners who will use the research. Community engaged research also provides an opportunity to enhance the participation of communities typically under-represented in research but at high risk for health disparities. No specific community engaged research approach is required. Applications to this funding opportunity must provide a plan for a community engaged research approach that includes relevant invested parties as collaborators at a level of involvement that is feasible for the community partner and appropriate for the project to enhance the impact of the research.
- **Qualitative data:** Qualitative data can aid in more deeply understanding the experiences and needs of participants. Likewise, qualitative data plays an important role in generating new hypotheses that may not be reflected in researcher constructed theories, models, and frameworks but may be critical in translating research into practice to meet the needs of communities. In addition, purposive sampling of individuals in communities typically under-represented in research can bring to light the needs of these communities that would potentially be overshadowed by larger, well-represented groups in quantitative data collection and analysis. As with community engaged research, there is a wide array of qualitative data collection and analysis approaches. No specific qualitative approach is required. In the research strategy, applications to this funding opportunity must explain and justify their qualitative data collection and analysis approach. Qualitative data can be collected and analyzed in isolation or in conjunction with quantitative approaches (e.g., mixed methods).
- **Diverse perspectives:** Diverse teams working together and capitalizing on innovative ideas and distinct perspectives outperform homogeneous teams. There are many benefits that flow from a diverse scientific workforce, including: fostering scientific innovation, enhancing global competitiveness, contributing to robust learning environments, improving the quality of the research, advancing the likelihood that underserved populations participate in, and benefit from research, and enhancing public trust. Applications to this funding opportunity must provide a plan for enhancing diverse perspectives (PEDP).

### **Research Objectives**

This initiative invites research grant applications that will use a community engaged research approach and qualitative data to assess the information, practice, and/or dissemination needs of caregivers, professionals, and/or other invested parties who support late talking children. Resulting findings should set a sufficient foundation for subsequent applications that would further develop, evaluate, disseminate, and/or implement state-of-the-science information and evidence-based practices to effectively guide caregivers, professionals, and other invested parties in supporting the success of late talking children.

Applications can focus on single or multiple groups of invested parties who care for and support late talking children. Likewise, applications can focus on single or multiple groups of late talkers with varying conditions or risk factors associated with their late language emergence. Any portion of the continuum of service delivery, from birth to adolescence, is eligible for study. Applications must include a clear justification for how the proposed sample, design, and methods will contribute to understanding the information, practice, and/or dissemination needs of invested parties who support late talking children.

Examples of relevant research topics include, but are not limited to studies that:

- Explore what caregivers, professionals, or other invested parties want to know about the nature, extent, and developmental course of late language emergence.
- Examine what caregivers, professionals, or other invested parties want to know about service delivery and evidence-based practice for late talking children.
- Describe how caregivers, professionals, or other invested parties get information about the nature, extent, developmental course, and service options for late talking children.
- Investigate whether existing informational programs or service delivery practices about late talking meet the needs of caregivers, professionals, or other invested parties.
- Identify critical gaps in information and practice needs of caregivers, professionals, or other invested parties.
- Explore the information and practice needs of caregivers, professionals, or other invested parties who support late talking children from various cultural and linguistic groups.
- Investigate the information and practice needs of caregivers, professionals, or other invested parties who support late talking children from communities at elevated risk for health disparities.

NCATS Funding Priorities: NCATS is interested in projects that leverage the existing Rare Disease Clinical Research Network (RDCRN) consortia.

**Link to Additional Information:** <https://grants.nih.gov/grants/guide/pa-files/PAR-24-046.html>

## **17. Basic Energy Sciences (BES), Department of Energy**

**Application Deadline: open until September 30, 2024**

**Award Information: award size will depend on the number of meritorious applications and the availability of appropriated funds**

The mission of the Basic Energy Sciences (BES) program is to support fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels. BES research provides scientific foundations for DOE missions in energy, environment, and national security. The portfolio supports fundamental research in materials sciences, chemistry, geosciences, and biosciences. The BES website listed above includes more detailed information such as descriptions of program areas, workshop reports that address future directions, and Principal Investigator (PI) meeting summaries.

Proposed research must be responsive to a supported topic in one of the core research areas listed in this document. Overarching research priorities relevant to multiple core research areas are described in the bulleted list below:

- **Fundamental Science to Enable Clean Energy:** Research to provide understanding and scientific foundations for clean energy.
- **Critical Materials/Minerals:** Research to understand the fundamental properties of rare earth and platinum group elements to improve separation and extraction processes and to enable discovery and design of alternates to critical materials that will reduce or eliminate their need.
- **Fundamental Science to Transform Processing and Fabrication:** Research to understand fundamental chemical and materials processes for circular, clean, and scalable synthesis, processing, and fabrication; to advance transformational operando characterization and multiscale models and tools; and to co-design materials and processes.
- **Artificial Intelligence and Machine Learning (AI/ML):** Research to advance data science and AI/ML to accelerate fundamental research for the discovery of new chemical mechanisms and material systems with exceptional properties and function, and to apply these techniques for effective user facility operations and interpretation of massive data sets.

The BES divisions, program areas, and their objectives follow:

## 1. Materials Sciences and Engineering Division

Website: <https://science.osti.gov/bes/mse>

- a) **Materials Chemistry** - This program supports hypothesis-driven research on materials with a focus on the role of chemical reactivity, chemical transformation, and chemical dynamics on the material composition, structure, function, and lifetime across the range of length scales from atomic to mesoscopic. Discovery of the mechanistic detail for chemical synthesis, transformations and dynamics of materials, fundamental understanding of structure-property relationships of functional materials, and utilization of chemistry to control interfacial properties and interactions between materials are common themes.

Major scientific areas of interest include: (1) Fundamental aspects of chemical synthesis, including covalent and non-covalent assembly of materials from molecular-scale building blocks; (2) Synthesis and characterization of new classes of materials including hierarchical materials or other innovative assemblies of matter with novel functionality; (3) Exploitation of extreme and/or non-equilibrium conditions leading to new materials discovery; (4) Control of interphase chemistry and morphology; (5) Fundamental electrochemistry of materials; (6) Chemical dynamics and transformations of functional materials in operational environments; and (7) Development of new tools and techniques for the elucidation of chemical processes in materials, particularly in situ or operando studies of materials in energy-relevant environments.

Subprogram Contact:

- Craig Henderson, [craig.henderson@science.doe.gov](mailto:craig.henderson@science.doe.gov)
- Christopher Chervin, [christopher.chervin@science.doe.gov](mailto:christopher.chervin@science.doe.gov)
- Website: <https://science.osti.gov/bes/mse/Research-Areas/Materials-Chemistry>

- b) **Biomolecular Materials** - This activity supports fundamental materials science research for discovery, design and synthesis of functional materials and complex structures based on principles and concepts of biology. Biology provides a blueprint for organizing and manipulating matter, energy, entropy, and information across multiple length scales to build material systems that display complex yet well-coordinated collective behavior. The major programmatic direction is on the science-driven creation of materials and multiscale systems that exhibit well-coordinated functionality and information content approaching that of biological materials but capable of functioning under extreme, non-biological environments. This research activity seeks innovative fundamental science approaches for co-design and scalable synthesis of materials that coherently and actively manage multiple complex and simultaneous functions and tolerate abuse through autonomous repair and regrowth. New synthetic approaches and unconventional assembly pathways are sought to accelerate discovery of materials.

Major scientific areas of interest are: self, directed, and dissipative assembly to form resilient materials with self-regulating capabilities such as reconfiguration of morphology and function, autonomous self-healing and growth, control of active matter, and non-equilibrium information and signaling processing; management of precise functional group positioning and component interactions across multiple time and length scales; and design and creation of next-generation materials that incorporate low-energy mechanisms for programmable selectivity and active management of energy and fluid transport.

Subprogram Contact:

- Aura Gimm, [aura.gimm@science.doe.gov](mailto:aura.gimm@science.doe.gov)
- Website: <https://science.osti.gov/bes/mse/Research-Areas/Biomolecular-Materials>

- c) **Synthesis and Processing Science** - This program supports research to understand the physical phenomena and unifying principles that underpin materials synthesis and processing across multiple



length scales. Some of these phenomena include diffusion, nucleation, and phase transitions and the role imperfections and interfaces play in the emergence of materials functionality. The emphasis is on hypothesis-based research that enables discovery of new materials, including quantum materials, with targeted composition, structure, and function. New crystal growth methods and thin-film deposition techniques are needed to create complex materials, including new states of matter or discoveries under non-equilibrium conditions and through (multi-) scale and external interactions.

Subprogram Contact:

- James Dorman, [james.dorman@science.doe.gov](mailto:james.dorman@science.doe.gov)
- Website: <https://science.osti.gov/bes/mse/Research-Areas/Synthesis-and-Processing-Science>

- d) **Experimental Condensed Matter Physics** - The Experimental Condensed Matter Physics program supports research that will advance our fundamental understanding of the quantum physics governing the electronic structure of complex materials and will allow us to achieve new materials functionalities through the coherent manipulation and control of collective excitations and quasiparticles in solids. Research supported by the program focuses on systems whose behavior derives from correlation effects as manifested in superconducting, semiconducting, magnetic, ferroelectric, thermoelectric, and optical properties. The goal is to understand microscopic collective behavior emerging from nontrivial band topology, low dimensionality, and interplay of charge, spin, valley, and orbital degrees of freedom. The Experimental Condensed Matter Physics program supports design, synthesis, and characterization of new material systems whose electronic properties derive from quantum effects and cannot be described by semiclassical paradigms. Also supported is the development of new experimental techniques for characterizing the electronic states and properties of materials of interest, with emphasis on characterizations in situ, operando, and/or under extreme conditions.

Subprogram Contacts:

- Claudia Cantoni, [Claudia.Cantoni@science.doe.gov](mailto:Claudia.Cantoni@science.doe.gov)
- Tim Mewes, [Tim.Mewes@science.doe.gov](mailto:Tim.Mewes@science.doe.gov)
- Website: <https://science.osti.gov/bes/mse/Research-Areas/Experimental-Condensed-MatterPhysics>

- e) **Theoretical Condensed Matter Physics** - This program supports fundamental research in quantum physics with an emphasis on quantum materials, materials discovery and design, out-of-equilibrium quantum dynamics, and materials theory related to DOE missions.

Major scientific themes include electron correlations, quantum phases of matter, topological states, quantum magnetism, superconductivity, multiferroic and ferroelectric materials, and excited states phenomena. Research spans from analytical to computational approaches with a strong emphasis on theory, methods, and technique development, as well as prediction and interpretation of novel quantum phenomena.

Subprogram Contacts:

- Matthias Graf, [matthias.graf@science.doe.gov](mailto:matthias.graf@science.doe.gov)
- Claudia Mewes, [claudia.mewes@science.doe.gov](mailto:claudia.mewes@science.doe.gov)
- Website: <https://science.osti.gov/bes/mse/Research-Areas/Theoretical-Condensed-MatterPhysics>

- f) **Physical Behavior of Materials** - This program supports basic research to advance understanding of fundamental processes that take place in materials and in response to external stimuli, such as temperature, electromagnetic fields, chemical dopants and disorder, the proximity effects of surfaces and interfaces, and strain. The program emphasizes research on the structure-property relationships to physical behavior of materials, such as the relationship of atomic structure and crystal defects leading to semiconducting, superconducting, and magnetic properties, including novel diffusion and transport

phenomena. The research should seek to understand how materials generate, transmit, and store energy. A detailed understanding of how a material's behavior can be influenced by the surroundings is critical to the understanding of photon generation and harvesting; spin, charge and heat transport; and novel magnetic and magnetocaloric materials.

The areas targeted for increased emphasis include fundamental materials research to support future microelectronics, spintronics and light-matter interactions in the fields of excitonics, and plasmonics.

Subprogram Contact:

- Refik Kortan, [refik.kortan@science.doe.gov](mailto:refik.kortan@science.doe.gov)
- Website: <https://science.osti.gov/bes/mse/Research-Areas/Physical-Behavior-of-Materials>

- g) **Mechanical Behavior and Radiation Effects** - This activity supports basic research to understand defects in materials and their effects on the properties such as strength, structure, deformation, and failure. Defect formation, growth, migration, and propagation are examined by coordinated experimental and modeling efforts over a wide range of spatial and temporal scales as well as a range of environments and stimuli. Topics include deformation of nanostructured materials, fundamentals of radiation damage, corrosion/stress-corrosion cracking in conjunction with radiation or stress, and research that would lead to microstructural design for tailored strength, radiation response, formability, and fracture resistance in energy-relevant materials.

Subprogram Contact:

- John Vetrano, [john.vetrano@science.doe.gov](mailto:john.vetrano@science.doe.gov)
- Website: <https://science.osti.gov/bes/mse/Research-Areas/Mechanical-Behavior-and-RadiationEffects>

- h) **Quantum Information Science in Materials Sciences and Engineering** - This activity supports research in Materials Sciences and Engineering (MSE) to advance fundamental understanding of quantum phenomena in support of crosscutting MSE Division research areas (Materials Discovery, Design, and Synthesis; Condensed Matter and Materials Physics; Scattering and Instrumentation Sciences) within the Office of Basic Energy Sciences (BES).

The program also supports characterization of QIS-relevant materials, and the use or development of cutting-edge techniques to measure fundamental quantum phenomena, with the goal of advancing understanding.

Subprogram Contact:

- Athena Sefat, [athena.sefat@science.doe.gov](mailto:athena.sefat@science.doe.gov)
- Website: <https://science.osti.gov/bes/Research/qis>

- i) **X-Ray Scattering** - This activity supports basic research on the fundamental interactions of photons with matter to achieve an understanding of atomic, electronic, and magnetic structures and excitations and their relationships to materials properties, including the dynamics of quantum phenomena. The main emphasis is on x-ray scattering, spectroscopy, and imaging research, primarily at major BESsupported user facilities. Instrumentation development and experimental research in ultrafast materials science, across the full electromagnetic spectrum, is an integral part of the portfolio. This includes research aimed at manipulating and detecting ultrafast transient physical phenomena in materials, especially at excitation levels consistent with quantum phenomena and controlled energy conversion and transport.

Subprogram Contact:

- Lane Wilson, [lane.wilson@science.doe.gov](mailto:lane.wilson@science.doe.gov)
- Website: <https://science.osti.gov/bes/mse/Research-Areas/X-Ray-Scattering>

- j) **Neutron Scattering** - This activity supports innovative applications of neutron scattering to achieve transformative understanding of atomic and magnetic structures and excitations, and their relationships to macroscopic properties, including, mechanical, thermal, electronic, magnetic, and topological. Capabilities that further innovation include (but are not limited to) novel uses of neutron beams, synthesis of samples specifically for neutron scattering (e.g., large single crystals, deuterated materials), sample environment optimized for neutron scattering, data acquisition and analysis techniques that facilitate experiments in operando conditions, and software to efficiently control instrumentation and collect data (“smart” automation) or to extract information accurately and efficiently from the data. Work supported by this activity should enable growth of the neutron scattering community, especially at BES-supported user facilities.

Subprogram Contact:

- Michael Fitzsimmons, [Michael.Fitzsimmons@science.doe.gov](mailto:Michael.Fitzsimmons@science.doe.gov)
- Website: <https://science.osti.gov/bes/mse/Research-Areas/Neutron-Scattering>

- k) **Electron and Scanning Probe Microscopies** - This program supports basic research in materials sciences using advanced electron and scanning probe microscopy and related spectroscopy techniques to understand the atomic, electronic, and magnetic structures and properties of materials. This activity also supports the development of new instrumentation concepts and quantitative techniques to advance materials characterizations. Supported advancements include ultrafast electron diffraction and imaging techniques. The goal is to develop a fundamental understanding of materials, including quantum phenomena, through advanced microscopy, spectroscopy, and the associated theoretical tools.

Subprogram Contact:

- Jane Zhu, [jane.zhu@science.doe.gov](mailto:jane.zhu@science.doe.gov)
- Website: <https://science.osti.gov/bes/mse/Research-Areas/Electron-and-Scanning-ProbeMicroscopies>

## 2. Chemical Sciences, Geosciences, and Biosciences

Website: <https://science.osti.gov/bes/csgeb/>

The Chemical Sciences, Geosciences, and Biosciences (CSGB) Division supports experimental, theoretical, and computational research to provide fundamental understanding of chemical transformations and energy flow in systems relevant to DOE missions.

- l) **Atomic, Molecular, and Optical Sciences (AMOS)** - The DOE AMOS program is focused on fundamental, hypothesis-driven research in ultrafast chemical sciences. The program supports basic experimental and theoretical research aimed at understanding the structural and dynamical properties of atomic and molecular systems. The research targets fundamental interactions of photons and electrons with atomic and molecular systems to characterize and control their behavior. The program aims to develop accurate quantum mechanical descriptions of ultrafast dynamical processes, such as charge migration and transfer, chemical bond breaking and forming, and interactions in strong fields, where electron-electron and electron-nuclei correlations are important. Topics of interest include the development and use of novel, ultrafast probes of matter; the interactions of molecules with intense electromagnetic fields; and the control of quantum phenomena in molecular systems.

Subprogram Contact:

- Thomas (Tom) Settersten (Acting), [Thomas.settersten@science.doe.gov](mailto:Thomas.settersten@science.doe.gov)
- Website: <https://science.osti.gov/bes/csgeb/research-areas/atomic-molecular-and-optical-science/>

- m) **Gas Phase Chemical Physics** - This program supports research on fundamental gas-phase chemical

processes that provide understanding and scientific foundations for clean energy. Research in this program explores chemical reactivity, kinetics, and dynamics in the gas phase at the level of electrons, atoms, molecules, and nanoparticles. A continuing goal of this program is to understand energy flow and reaction mechanisms in complex, nonequilibrium, gas-phase environments. A new crosscutting theme for the GPCP program concerns systems chemistry, in which complex molecular behavior emerges from ensembles of molecules or large reaction networks in the gas phase. The GPCP program seeks to understand, model, and ultimately control this emergent molecular complexity. Of particular interest are gas phase and/or gas/surface chemical systems in which emergent behavior manifests as a significant and possibly precipitous change in chemical reaction rates, branching ratios, particle growth, and/or product energy distributions with changes in conditions, e.g., temperature, pressure, ion concentration (plasma) and reactions included in a reaction network.

Subprogram Contact:

- Wade Sisk, [wade.sisk@science.doe.gov](mailto:wade.sisk@science.doe.gov)
- Website: <https://science.osti.gov/bes/csgb/Research-Areas/Gas-Phase-Chemical-Physics>

- n) **Computational and Theoretical Chemistry** - The Computational and Theoretical Chemistry program (CTC) supports fundamental research for the sustained development and integration of new and existing theoretical and massively parallel computational approaches for the deterministic, accurate and efficient prediction of chemical processes and mechanisms relevant to the DOE missions. Part of the focus is on simulation of dynamical processes that are so complex that efficient computational implementation must be accomplished in concert with development of new theories and algorithms. Efforts must be tightly integrated and provide theories and computational approaches to advance the fundamental science of at least one of the overarching research priorities for FY 2024 as listed in the BES program description in Section B. (above). Applications may include the development or improvement of modular computational tools that enhance interpretation and analysis of advanced experimental measurements, including those acquired at DOE user facilities, or efforts aimed at enhancing the accuracy, precision, applicability and scalability of quantum-mechanical simulation methods. Also included are development of spatial and temporal multiscale methodologies that allow for time-dependent simulations of resonant, coherent and dissipative processes as well as rare events. Development of novel theories and simulation capabilities for theory-guided control of externally driven electronic and spin-dependent processes in real environments is encouraged.

Subprogram Contact:

- Aaron Holder, [aaron.holder@science.doe.gov](mailto:aaron.holder@science.doe.gov)
- Website: <https://science.osti.gov/bes/csgb/research-areas/computational-and-theoreticalchemistry/>

- o) **Condensed Phase and Interfacial Molecular Science (CPIMS)** - The CPIMS program emphasizes basic research at the boundary of chemistry and physics, pursuing a molecular-level understanding of chemical and physical processes in liquids and at interfaces. With its foundation in chemical physics, the impact of this crosscutting program is far reaching, providing understanding and scientific foundations underpinning a variety of areas of importance to the DOE, including energy, chemical synthesis and manufacturing, and microelectronics. The CPIMS program also supports efforts related to research priorities such as Artificial Intelligence and Machine Learning that can form the basis for new approaches to understanding science questions of interest to the CPIMS program.

Subprogram Contact:

- Gregory Fiechtner, [gregory.fiechtner@science.doe.gov](mailto:gregory.fiechtner@science.doe.gov)
- Website: <https://science.osti.gov/bes/csgb/Research-Areas/Condensed-Phase-and-InterfacialMolecular-Sciences>

- p) **Quantum Information Science Research in Chemical Sciences, Geosciences, and Biosciences** - This

activity supports fundamental experimental and theoretical research in chemical sciences, geosciences, and biosciences (CSGB) to advance understanding and control of quantum phenomena in natural and artificial systems, and the development and use of quantum algorithms and simulations to advance the domain sciences supported by the CSGB Division of BES.

Subprogram Contact:

- Thomas (Tom) Settersten (Acting), [Thomas.settersten@science.doe.gov](mailto:Thomas.settersten@science.doe.gov)
- Website: <https://science.osti.gov/bes/Research/qis>

- q) **Catalysis Science** - This program supports basic research pursuing novel catalyst design and quantum- and molecular-level control of chemical transformations relevant to the sustainable conversion of energy resources. Emphasis is on the understanding of reaction mechanisms, enabling precise identification and manipulation of catalytic active sites, their environments, and reaction conditions for optimized efficiency and selectivity. Elucidation of catalytic reaction mechanisms in diverse chemical environments and the structure-reactivity relationships of solid and molecular catalysts comprises a central component of the program.

Subprogram Contacts:

- Viviane Schwartz, [viviane.schwartz@science.doe.gov](mailto:viviane.schwartz@science.doe.gov)
- Chris Bradley, [chris.bradley@science.doe.gov](mailto:chris.bradley@science.doe.gov)
- Website: <https://science.osti.gov/bes/csgeb/research-areas/catalysis-science/>

- r) **Separation Science** - This program supports hypothesis-driven experimental and computational research to discover, understand, predict, and control de-mixing transitions, with the goal of enabling chemical separation paradigms that may become the basis for solutions to the current and long-term energy challenges – these include decarbonization towards a net-zero scenario, availability of critical elements to support clean energy infrastructure, and avoidance or mitigation of associated environmental impacts. The practical needs include, for example, efficient capture of CO<sub>2</sub> directly from air or from oceans; expanded supply and recycling of critical elements such as rare earths, lithium, cobalt, nickel or platinum group metals; and separation and reprocessing of radioactive elements. Basic research in these areas relies on understanding chemical and physical properties at multiple scales, quantum through macroscopic, and molecular interactions and energy exchanges that determine the efficiency of chemical separations.

Subprogram Contact:

- Raul Miranda, [Raul.Miranda@science.doe.gov](mailto:Raul.Miranda@science.doe.gov)
- Website: <https://science.osti.gov/bes/csgeb/Research-Areas/separation-science>

- s) **Heavy Element Chemistry** - The Heavy Element Chemistry (HEC) program supports actinide and transactinide fundamental chemical research that underpins the DOE missions in energy, environment, and national security with an emphasis on the chemical and physical properties of the transuranic elements. Research performed in this program is essential to a clean-energy future, such as but not limited to, the fundamental research supporting carbon-free nuclear energy.

Subprogram Contact:

- Philip Wilk, [Philip.Wilk@science.doe.gov](mailto:Philip.Wilk@science.doe.gov)
- Website: <https://science.osti.gov/bes/csgeb/research-areas/heavy-element-chemistry/>

- t) **Geosciences** - The Geosciences program supports basic experimental, theoretical, and computational research in geochemistry and geophysics that have clear connections to energy or recovery of critical elements. Geochemical research emphasizes fundamental understanding of the reaction mechanisms and rates associated with geochemical processes, focusing on molecular-mesoscale aspects of minerals and



interfaces and on the molecular origins of critical element/isotope distributions and their influence on migration/separation/fractionation pathways in the earth, ranging from weathering environments to magmatic/hydrothermal systems. Geophysical research focuses on new approaches to understand subsurface processes that characterize the evolution of fractures in the upper crust, particularly when associated with enhanced geothermal systems and CO<sub>2</sub> mineralization and storage.

Subprogram Contact:

- Philip Wilk, [Philip.Wilk@science.doe.gov](mailto:Philip.Wilk@science.doe.gov)
- Website: <https://science.osti.gov/bes/csgb/research-areas/geosciences/>

- u) **Solar Photochemistry** - This program supports fundamental, molecular-level research on solar energy capture and conversion in the condensed phase and at interfaces. Photochemical approaches may ultimately form the basis of new clean energy technologies that generate electricity or energy-rich chemicals from sunlight. Advances in these areas will require a thorough understanding of elementary processes such as light absorption, charge separation, and charge transport within a number of chemical systems, including those with significant nanostructured composition.

Subprogram Contacts:

- Christopher Fecko, [Christopher.Fecko@science.doe.gov](mailto:Christopher.Fecko@science.doe.gov)
- Jennifer Roizen, [Jennifer.Roizen@science.doe.gov](mailto:Jennifer.Roizen@science.doe.gov)
- Website: <https://science.osti.gov/bes/csgb/Research-Areas/Solar-Photochemistry>

- v) **Photosynthetic Systems** - This activity supports basic research on the capture and conversion of solar energy to chemical energy in the photosynthetic systems of plants, algae, and photosynthetic microbes. Topics of study include, but are not limited to, light harvesting, proton and electron transport, reduction of carbon dioxide to form organic compounds, and the self-assembly and self-repair of photosynthetic proteins, complexes and membranes. Examples of specific topics under these headings include capture of CO<sub>2</sub> by carboxylase enzymes and bicarbonate transporters, light driven production of H<sub>2</sub> by hydrogenase enzymes, long-lived quantum coherent energy transfers in photosystems, and oxidation of water for generation of reduced carbon compounds, including solar fuels. The broad goal of the program is to foster greater knowledge of the diverse photosynthetic systems found in nature.

Subprogram Contact:

- Stephen Herbert, [stephen.herbert@science.doe.gov](mailto:stephen.herbert@science.doe.gov)
- Website: <https://science.osti.gov/bes/csgb/Research-Areas/Photosynthetic-Systems>

- w) **Physical Biosciences** - This program supports basic research into the chemistry, biochemistry, biophysics, and molecular biology that underpin biological energy capture, conversion, and storage.

Subprogram Contact:

Kate Brown, [Katherine.Brown@science.doe.gov](mailto:Katherine.Brown@science.doe.gov)  
Website: <https://science.osti.gov/bes/csgb/Research-Areas/Physical-Biosciences>

### 3. Scientific User Facilities

Website: <https://science.osti.gov/bes/suf/>

The Scientific User Facilities Division supports the research and development, planning, construction, and operation of scientific user facilities for a vast range of science using x-ray, neutron, and electron beam scattering as fundamental probes of matter. The Division supports research to improve today's facilities and lay the foundation for next generation facilities.

- x) **BES Accelerator and Detector Research** - This program supports research that advances the instruments, techniques, and capabilities of the existing and/or future scientific user facilities. Research is

supported that aims at developing techniques that will strongly benefit the next generation of accelerator-based particle sources including improved diagnostics. Research includes studies of creation, manipulation, and transport of ultrahigh brightness beams and modeling of beam dynamics.

Subprogram Contact:

- Eliane Lessner, [eliane.lessner@science.doe.gov](mailto:eliane.lessner@science.doe.gov)
- Website: <https://science.osti.gov/bes/suf/accelerator-and-detector-research/>

**Link to Additional Information:** <https://science.osti.gov/bes/>

## **18. Fusion Energy Sciences (FES), Department of Energy**

**Application Deadline: open until September 30, 2024**

**Award Information: award size will depend on the number of meritorious applications and the availability of appropriated funds**

The mission of the Fusion Energy Sciences (FES) program is to expand the fundamental understanding of matter at very high temperatures and densities and to build the scientific foundation needed to develop a fusion energy source. This is accomplished through the study of plasma, the fourth state of matter, and how it interacts with its surroundings.

To achieve its mission, FES invests in flexible U.S. experimental facilities of various scales, international partnerships leveraging U.S. expertise, large-scale numerical simulations based on experimentally validated theoretical models, development of advanced fusion-relevant materials, future blanket concepts and tritium fuel cycle, and innovation in measurement techniques. In addition, FES supports partnerships with the private fusion sector to enable commercially relevant Fusion Pilot Plant designs.

Specific information about FES program areas is as follows:

- Burning Plasma Science: Foundations—Advanced Tokamak** - The Advanced Tokamak (AT) program area addresses gaps in the physics basis for the conventional tokamak approach to magnetic confinement fusion. The AT program develops methods that simultaneously obtain high plasma pressure, stationary plasma profiles, high plasma confinement, and adequate particle and power handling. The program includes research and facility operations on the DIII-D SC user facility at General Atomics in San Diego, CA, and small-scale advanced tokamak research conducted on university-scale devices. DIII-D is the largest magnetic fusion research experiment in the U.S. It can magnetically confine plasmas at temperatures relevant to burning plasma conditions. Its extensive set of advanced diagnostic systems and extraordinary flexibility to explore various operating regimes make it a worldleading tokamak research facility. Small-scale advanced tokamak research is complementary to the efforts at DIII-D and other user facilities, providing rapid and cost-effective development of new techniques, prototyping of new concepts, and detailed validation of theoretical models.
- Enabling Research and Development** - The realization of fusion energy and the advancement of plasma science requires advances in supporting technologies to achieve higher levels of performance and flexibility to explore new plasma regimes. The purpose of the Enabling Research and Development (R&D) program element is to develop these supporting technologies for deployment on existing and next generation fusion research facilities. Applications to this area must focus on experimental research and/or model validation pertaining to supporting technologies required to achieve higher levels of performance and flexibility to explore new plasma regimes.
- Burning Plasma Science: Foundations—Spherical Tokamak** - The Spherical Tokamak Research program seeks to utilize spherical tokamak research facilities with low aspect ratios to develop the physics knowledge needed to advance the FES energy mission. An improved understanding of the spherical tokamak magnetic confinement configuration is needed to establish the physics basis for next-step spherical tokamak facilities, broaden the scientific understanding of plasma confinement for burning plasmas, and support the Administration's Bold Decadal Vision for commercial fusion energy by determining the optimum aspect ratio for

a tokamak-based Fusion Pilot Plant. Operation at higher magnetic field, reduced collisionality, and with controllable fully non-inductive current drive are necessary next steps for assessing the spherical tokamak as a potentially cost-effective path to fusion energy.

- d. **Burning Plasma Science: Foundations—Theory & Simulation** - This program area focuses on advancing the scientific understanding of the fundamental physical processes governing the behavior of magnetically confined plasmas.
- e. **Burning Plasma Science: Long Pulse—Tokamak** - This program area supports research conducted by U.S. teams on long pulse superconducting tokamaks located overseas as well as on short pulse tokamaks with unique capabilities not available in U.S. facilities. Supported teams conduct research on international facilities by building on the experience gained from the operation and optimization of U.S. fusion facilities. This research will enable the exploration of plasma regimes that cannot be sustained for long duration on domestic machines, allowing the U.S. fusion program to gain the knowledge needed to control and sustain plasma discharges in future burning plasma devices such as ITER and tokamak-based fusion power plants.
- f. **Burning Plasma Science: Long Pulse—Stellarator** - This program area supports research on stellarators, which offer the promise of steady-state confinement regimes without transient events driven by net plasma current. The three-dimensional (3D) shaping of the plasma in a stellarator provides for a broader range in design flexibility than is achievable in a 2D system. This program element supports research conducted on U.S. stellarators that are focused on optimization of confinement through quasi-symmetric shaping of the toroidal magnetic field, and research by U.S. teams conducted on international facilities.
- g. **Burning Plasma Science: Long Pulse—Materials** - The selection of materials for future fusion device design is foundational. Every component, from the innermost chamber walls to the outer framework, demands a diverse array of materials that can endure a spectrum of conditions encompassing heat, particle exposure, and neutron fluxes. This endeavor involves advancing materials, developing physical and numerical models, and other essential tools for realizing the next generation fusion material technologies. Leveraging the FESAC Long-Range Plan and recent community workshops, highlighted below, underscores the urgent necessity for a fusion prototypic neutron source which can replicate fusion conditions. This capability serves as the fundamental basis for the materials constituting a fusion device. Alongside the neutron environment, there exists other interconnected materials challenges that broaden the spectrum of considerations for a fusion device.
- h. **Burning Plasma Science: Long Pulse—Fusion Nuclear Science** - Interlinked with a burning plasma and materials that can withstand fusion reactor conditions are all the key systems required to capture the power, breed fuel, and ensure the safe operation of a fusion plant. Building off the FESAC Long-Range Plan, the fusion technology community organized a series of workshops which outlined in more detail key challenges and research objectives, which can be found below.
- i. **Discovery Plasma Science: Plasma Science and Technology—General Plasma Science** - The General Plasma Science (GPS) program supports research at the frontiers of basic and low temperature plasma science, including dynamical processes in laboratory, space, and astrophysical plasmas, such as magnetic reconnection, plasma dynamo, shocks, turbulence cascade, structures, waves, flows and their interactions; behavior of dusty plasma, non-neutral, single component matter or antimatter plasma, and ultra-cold neutral plasma; plasma chemistry and processes in low temperature plasma (LTP), interfacial plasma, synthesis of nanomaterials, and interaction of plasma with surfaces, materials or biomaterials.
- j. **Discovery Plasma Science: Plasma Science and Technology—High Energy Density Laboratory Plasmas** - The High Energy Density Laboratory Plasmas (HEDLP) program supports the study of ionized matter at extremely high density and temperature, specifically, when matter is heated and compressed to a point that the stored energy in the matter reaches approximately 100 billion Joules per cubic meter, corresponding to a pressure of approximately 1 million atmospheres.

- k. **Discovery Plasma Science: Measurement Innovation** - This program element supports the development of innovative diagnostics to make detailed measurements of the behavior of plasmas. The fusion program is entering a new era where it will be able to explore strongly burning plasmas. The Measurement Innovation program will therefore be looking for applications for new diagnostics that will be able to measure the properties of burning plasmas and be able to perform in the harsh radiation environment anticipated in burning plasmas.
- l. **Artificial Intelligence and Machine Learning for Fusion & Plasma Sciences** - This program supports the application of AI/ML techniques in partnership with data and computational scientists through the establishment of multi-institutional, interdisciplinary collaborations. Supported activities span the full range of other FES program areas. Activities include the development of fusion data resources and frameworks.
- m. **Innovation Network for Fusion Energy (INFUSE) Research Partnerships** - The Innovation Network for Fusion Energy (INFUSE) program supports research partnerships with the emerging fusion private sector, with the goal of accelerating the development of fusion energy in the U.S. Applications under this topic are welcome from university or research institution-based scientists, seeking to collaborate with industrial partners in the INFUSE program. This topic seeks to advance our scientific understanding of fusion-related phenomena by fostering collaborations involving the expertise and unique resources available at DOE national laboratories and U.S. universities.

**Link to Additional Information:** <https://science.osti.gov/fes/>

**19. Interventions to Address HIV-Related Comorbidities among Highly Affected Populations Experiencing Health Disparities (R01 - Clinical Trial Required), NIH**

**Application Deadlines:**

- **Letter of Intent: 30 days prior to the application due date**
- **Full Proposal: December 11, 2023; December 11, 2024**

**Award Information: up to \$750,000 in direct costs annually, not including consortium F& A costs for a project period of five years**

The objective of this initiative is to support multilevel and multidisciplinary interventions to improve quality of life (QoL) and promote successful aging among people living with HIV (PWH) who are from racial and ethnic minority populations and from lower socioeconomic status (SES) who are at high risk or currently experiencing comorbidities despite adequate control of HIV infection.

Projects must include a focus on populations experiencing health disparities as defined above. Much of this population identify as sexual and gender minorities (SGM) persons. NIMHD encourages proposals with an intersectional perspective on SGM persons or underserved rural populations with race and ethnicity and/or low SES who are living with HIV. Projects focusing on groups with multiple marginalized identities are encouraged (e.g., racial and ethnic minority groups living in rural areas, SGM persons from racial and ethnic minority groups).

**Design, Analysis, and Sample Size for Studies to Evaluate Group-Based Interventions:** Investigators who wish to evaluate the effect of an intervention are strongly encouraged to use appropriate intervention study designs, such as a parallel group- or cluster-randomized trial, a stepped-wedge group- or cluster randomized trial, a rigorous quasi-experimental design such as a group- or cluster-level regression discontinuity design or an interrupted time-series design, or a rigorous alternative.

**Research Topics:**

Specific intervention research topics may include but are not limited to the following among PWH from populations experiencing health disparities:

- Develop systems level intervening strategies to coordinate and improve care among patients with multiple comorbidities.
- Address the role of health care access and uptake of services in treatment outcomes among PWH experiencing multiple marginalized identities.
- Behavioral change/lifestyle approaches for modifiable factors such as smoking cessation and mindfulness to improve health outcomes.
- Test mHealth approaches to reduce stigma, promote resiliency, build social networks, and provide timely linkages to services and care.
- Examine peer-based integrated strategies to promote successful aging in community settings.
- Develop peer-based approaches among SGM PWH with intersecting identities and multiple comorbidities to manage disease or improve QoL.
- Test evidence-based programs to promote QoL and successful aging.
- Develop family-based and intergenerational approaches to coordinate care and promote successful aging and improve QoL.
- Implement comprehensive systems level approaches to bolster social networks and integrate care for common comorbidities such as diabetes and mental illness.
- Place-based approaches accounting for SDOH that promote QoL with multiple comorbidities.
- Develop strategies that address social needs (i.e., housing instability, food security, transportation, unemployment, financial planning) and improve health care access and quality of care.
- Strategies to increase access to and improve the quality of palliative care, pain management, and end of life care and planning.

### **Office of Research on Women’s Health (ORWH)**

ORWH is part of the Office of the Director, NIH, and works with the 27 NIH Institutes and Centers to advance rigorous research of relevance to the health of women. ORWH does not award grants but co-funds women’s health-related applications and research projects that have received an award from one of the participating NIH Institutes and Centers (ICs) listed in the announcement. Applications seeking ORWH co-funding should ensure that the proposed work is aligned with at least one goal and objective outlined in the Trans-NIH Strategic Plan for Women’s Health Research (<https://www.nih.gov/women/strategicplan>).

For this announcement, ORWH supports intersectional research projects that address topics of relevance to health disparities populations of women – including cisgender, transgender, and gender diverse women – and individuals assigned female at birth. Areas of particular interest include:

- Interventions (community-based, peer-led, provider focused) to address the impact of menopause and related comorbidities on QoL for women with HIV.
- Development, testing, implementation, and/or expansion of interventions to address comorbidity among diverse older populations of women with HIV.
- Development, testing, implementation, and/or expansion of interventions considering health impacts of gender as a social and structural variable on aging and QoL for women with HIV.
- Development, testing, implementation, and/or expansion of community-based interventions focused on violence, trauma and mental health in aging women with HIV.

**Link to Additional Information:** <https://grants.nih.gov/grants/guide/rfa-files/RFA-MD-24-003.html>

<b>Non-Scientific Forecasted Opportunities</b>
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#### **1. Archaeological and Ethnographic Field Research, NEH**

The Archaeological and Ethnographic Field Research program provides funding to conduct empirical research in the



United States or abroad in order to answer questions of importance to the humanities. While the dissemination of results through publications and other media is the ultimate expectation of these awards, the program supports field costs such as travel, accommodation, field staff and equipment, and salary replacement for the project director and collaborating scholars.

**Link to Additional Information:** <https://www.grants.gov/web/grants/view-opportunity.html?oppId=350624>

## Scientific Forecasted Opportunities

### **1. Minority HIV Research Initiative (MARI): Epidemiologic, Behavioral, and Implementation Science Research in Racial/Ethnic Minority Communities Disproportionately Affected by HIV and Build Research Capacity Among Historically Underrepresented Researchers, DHHS/CDC**

The purpose of this Notice of Funding Opportunity (NOFO) is to support promising epidemiologic, behavioral, and implementation science research addressing the drivers of health inequities in racial and ethnic minority communities disproportionately affected by HIV while strengthening the capacity for conducting such research among underrepresented investigators working in these communities. The NOFO supports CDC's goals to promote health and reduce disease and disability by funding research that has the potential to result in high public health impact. The NOFO is aligned with the federal initiative for Ending the HIV Epidemic in the United States (EHE) by 2030. The EHE plan encompasses the following four key strategies: (i) diagnose all individuals with HIV as early as possible; (ii) treat people with HIV rapidly and effectively to reach sustained viral suppression; (iii) prevent new HIV transmissions by using proven interventions, including PrEP and syringe services programs (SSPs); (iv) respond quickly to potential HIV outbreaks to get needed prevention and treatment services to people who need them.

**Link to Additional Information:** <https://www.grants.gov/web/grants/view-opportunity.html?oppId=350553>

## 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](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>

### **Announcing Previous Important Funding Opportunities**

1. University Turbine Systems Research (UTSR), Department of Energy  
**Deadline: November 7, 2023**  
<https://www.grants.gov/web/grants/view-opportunity.html?oppId=350126>
2. Discovery Research PreK-12 (DRK-12), NSF  
**Deadline: November 8, 2023**  
<https://www.nsf.gov/pubs/2023/nsf23596/nsf23596.htm#elig>
3. NIDA REI: Racial Equity Visionary Award Program for Research at Minority Serving Institutions on Substance Use and Racial Equity (DP1 Clinical Trial Optional), NIH  
**Deadline: November 14, 2023**  
<https://grants.nih.gov/grants/guide/rfa-files/RFA-DA-23-031.html>
4. Inspire! Grants for Small Museums, IMLS  
**Deadline: November 15, 2023**  
<https://imls.gov/grants/available/inspire-grants-small-museums>
5. Major Research Instrumentation (MRI) Program: Instrument Acquisition or Development, NSF  
**Deadline: November 15, 2023**  
<https://www.nsf.gov/pubs/2023/nsf23519/nsf23519.htm>
6. Desalination and Water Purification Research Program: Research Projects, Department of the Interior  
**Deadline: November 15, 2023**  
<http://www.usbr.gov/research/dwpr>
7. Transformational Habitat Restoration and Coastal Resilience Grants Under the Bipartisan Infrastructure Law and Inflation Reduction Act, NOAA  
**Deadline: November 17, 2023**  
<https://www.grants.gov/web/grants/view-opportunity.html?oppId=349865>
8. Dynamics of Integrated Socio-Environmental Systems (DISES), NSF  
**Deadline: November 17, 2023**  
[https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf23609](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf23609)

9. EMpowering BRoader Academic Capacity and Education (EMBRACE), NSF  
**Deadline: November 20, 2023**  
<https://www.nsf.gov/pubs/2023/nsf23617/nsf23617.htm>
10. Division of Physics: Investigator-Initiated Research Projects (PHY), NSF  
**Deadlines: November 20 and 22, 2023; December 5 and 12, 2023**  
<https://www.nsf.gov/pubs/2023/nsf23615/nsf23615.htm>
11. Early-stage Biomedical Data Repositories and Knowledgebases (R24 Clinical Trial Not Allowed), NIH  
**Deadline: November 26, 2023**  
<https://grants.nih.gov/grants/guide/pa-files/PAR-23-236.html>
12. Collaborative Research, NEH  
**Deadline: November 29, 2023**  
<https://www.neh.gov/grants/research/collaborative-research-grants>
13. Ideas Lab: Personalized Engineering Learning (PEL), NSF  
**Deadline: November 29, 2023**  
<https://www.nsf.gov/pubs/2023/nsf23627/nsf23627.htm>
14. National Rural Health Policy, Community, and Collaboration Program, HRSA  
**Deadline: November 30, 2023**  
<https://www.grants.gov/web/grants/view-opportunity.html?oppId=349399>
15. Centers of Research Excellence in Science and Technology (CREST Centers), NSF  
**Deadline: December 1, 2023**  
<https://www.nsf.gov/pubs/2023/nsf23595/nsf23595.htm>
16. Focused Research Groups in the Mathematical Sciences (FRGMS), NSF  
**Deadline: December 6, 2023**  
<https://www.nsf.gov/pubs/2023/nsf23621/nsf23621.htm>
17. Food and Agricultural Non-Formal Education (FANE)  
**Deadline: December 7, 2023**  
<https://www.nifa.usda.gov/grants/funding-opportunities/agriculture-food-research-initiative-education-workforce-development>
18. Limited Competition: Development and Renovation of Facilities for Expanding the Breeding Capacity of Specific Pathogen Free Non-Human Primates to Support HIV/AIDS-related Research (C06 Clinical Trial Not Allowed), NIH  
**Deadline: December 7, 2023**  
<https://grants.nih.gov/grants/guide/pa-files/PAR-24-033.html>
19. Organismal Response to Climate Change, NSF  
**Deadline: December 13, 2023**  
<https://www.nsf.gov/pubs/2023/nsf23622/nsf23622.htm>
20. Enabling Partnerships to Increase Innovation Capacity, NSF  
**Deadline: December 15, 2023**  
<https://www.nsf.gov/pubs/2023/nsf23625/nsf23625.htm>

21. NIDA REI: Academic Research Enhancement Award (AREA) Training a Diverse Data Science Workforce for Addiction Research (R15 Clinical Trial Not Allowed), NIH  
**Deadline: December 24, 2023**  
<https://grants.nih.gov/grants/guide/rfa-files/RFA-DA-24-026.html>
22. Digital Humanities Advancement Grants, NEH  
**Deadline: January 11, 2024**  
<https://www.neh.gov/grants/odh/digital-humanities-advancement-grants>
23. National Center for Education Research (NCER): Research Training Programs in The Education Sciences, Assistance Listing Number (ALN) 84.305B, D & N, Dept. of Education  
**Deadline: January 11, 2024**  
<https://www.grants.gov/web/grants/view-opportunity.html?oppId=350118>
24. Research and Mentoring for Postbaccalaureates in Biological Sciences (RaMP), NSF  
**Deadline: January 18, 2024**  
<https://www.nsf.gov/pubs/2023/nsf23514/nsf23514.htm>
25. Research on Innovative Technologies for Enhanced Learning (RITEL), NSF  
**Deadline: January 24, 2024**  
<https://www.nsf.gov/pubs/2023/nsf23624/nsf23624.htm>
26. Ethical and Responsible Research (ER2), NSF  
**Deadline: January 25, 2024**  
<https://www.nsf.gov/pubs/2023/nsf23630/nsf23630.htm>
27. 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>
28. 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>
29. 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>
30. 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>
31. 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>
32. 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#>



33. 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>
34. Mathematical Sciences Research Institutes, NSF  
**Deadline: March 14, 2024**  
<https://www.nsf.gov/pubs/2023/nsf23606/nsf23606.htm>
35. 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>
36. STEM Program, Office of Naval Research  
**Deadline: April 2, 2024**  
<https://www.grants.gov/web/grants/view-opportunity.html?oppId=347274>
37. Coastal Program - FY24, U.S. Fish and Wildlife Service  
**Deadline: May 30, 2024**  
<https://www.grants.gov/web/grants/view-opportunity.html?oppId=350418>
38. 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>
39. Environmental Education Local Grants Program for Region 2, EPA  
**Deadline: July 1, 2024**  
<https://www.grants.gov/web/grants/view-opportunity.html?oppId=350204>
40. 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>
41. Measurement Science and Engineering (MSE) Research Grant Programs, National Institute of Standards & Technology (NIST)  
**Deadline: Applications will be accepted and considered on a rolling basis as they are received.**  
<https://www.grants.gov/web/grants/view-opportunity.html?oppId=347512>



# Universidad *de Puerto Rico*

**LA MEJOR EDUCACIÓN A TU ALCANCE**

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