



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 11/26/2024 and is in no way all-inclusive of funding opportunities available. Further information has been shared with External Resource Coordinators and Research Coordinators at each UPR campus.

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1. Addressing Systems Challenges through Engineering Teams (ASCENT), NSF

Application Deadlines: January 22, 2025

Award Budget: range from \$1,000,000 to \$1,500,000 for a period of four years

The goal of the ASCENT program is to support the engineering research community as it fulfills its unique leadership role in advancing engineering and the economic prosperity of the nation. ASCENT proposals must clearly frame a cutting-edge convergent approach to a research challenge that critically involves one or more ECCS cluster research areas. The integration of disciplinary expertise not typically engaged in ECCS-funded projects is encouraged. ASCENT is intended to support ambitious and far-reaching fundamental engineering research projects that may exceed the scope and strain the resources of an individual ECCS core program.

The ASCENT program will support high-quality and ambitious fundamental research projects that involve the research areas of two or three ECCS clusters and are unsuitable for smaller teams or shorter durations. The ASCENT program is intended to produce results leading to disruptive technologies that lay the foundation for novel scientific and technological concepts to enable significant improvements in the environment, health, quality of life, and national prosperity. Integral to every ASCENT project must be an element to communicate the leadership role of engineering in addressing critical societal needs. A compelling and innovative research problem, critically involving two or three ECCS cluster research areas must lie at the heart of an ASCENT proposal, although integration of disciplinary expertise outside ECCS core disciplines is encouraged. ECCS core topics may be determined from current ECCS cluster descriptions described below, or by consulting with an ECCS Program Officer. The ASCENT program is not intended to support technology translation, although project outcomes may ultimately lead to commercialization.

ECCS Cluster Descriptions:

- **Communications, Circuits, and Sensing-Systems (CCSS) Cluster** - supports innovative research in circuit and system hardware and signal processing techniques. CCSS also supports system and network architectures for communications and sensing to enable the next-generation cyber-physical systems (CPS) that leverage computation, communication, and sensing integrated with physical domains. CCSS invests in micro- and nano-electromechanical systems, physical, chemical, and biological sensing systems, neurotechnologies, and high-speed communications & sensing circuits and systems for a variety of application domains including healthcare, biomedicine, communications, disaster mitigation, homeland security, intelligent transportation, manufacturing, energy, and smart buildings.
- **Electronics, Photonics and Magnetic Devices (EPMD) Cluster** - supports innovative research on novel devices based on the principles of electronics, optics and photonics, optoelectronics, magnetics, opto- and electromechanics, electromagnetics, and related physical phenomena contributing to a broad range of application domains including information and communications, imaging and sensing, healthcare, biomedicine, Internet of Things, energy, infrastructure, high-performance computing, neurotechnologies, and manufacturing.
- **Energy, Power, Control, and Networks (EPCN) Cluster** - supports innovative research in modeling, optimization, machine learning, adaptation, and control of networked multi-agent systems, higher-level decision making, and dynamic resource allocation, as well as risk management in the presence of uncertainty, sub-system failures, and stochastic disturbances. EPCN also emphasizes electric power systems, including generation, transmission, storage, and integration of renewable energy sources into the grid; power electronics and drives; battery management systems; hybrid and electric vehicles; and understanding of the interplay of power systems with associated regulatory & economic structures and with consumer behavior.

For details on ECCS Cluster descriptions, please refer to the website at <https://www.nsf.gov/div/index.jsp?div=ECCS> .

ASCENT 2025: Wafer-Scale or Panel-Scale Heterogeneous Integration of Innovative Semiconductor Systems through Advanced Packaging

This year's ASCENT focuses on heterogeneous integration (HI) for the next generation of semiconductor systems. In the

broader area of semiconductors, HI plays an important role in the modern-day economy and is crucial for national security. HI offers significant potential to advance semiconductor-based systems in many applications including, but not limited to, next-generation communications and sensing, high-performance computing, biotech and healthcare, power and energy, transportation, and aerospace.

Semiconductor packaging key parameters include power, performance, area, and cost. Power efficiency improves with innovative packaging, while performance benefits from shortened interconnection and finer pitches. Area requirements vary for high-performance chips with 3D integration. Cost reduction involves material alternatives and manufacturing efficiency.

This solicitation seeks creative and innovative ideas that address key fundamental challenges associated with HI. The topic at the heart of the proposal must involve research areas of at least two of the three ECCS clusters (CCSS, EPMD, EPCN). Proposals are encouraged to identify new approaches to the broader area of HI through advanced packaging. Proposals in the following areas are encouraged, but not limited to:

- (i) HI utilizing advanced packaging technologies for novel semiconductor circuits and systems for applications mentioned above, and/or
- (ii) innovations in HI technologies through advanced packaging. Proposals may cover design concepts, packaging architectures, types of devices to be integrated, and systems integration technologies, to name a few. Examples of topics include, but are not limited to: acoustic, magnetic, microwave, millimeter wave, terahertz, and photonic systems for future-generation communication, sensing, and power; resilient highly integrated electronics for high power or harsh environments; electromagnetic compatibility (EMC) and electromagnetic interference (EMI) in heterogeneously integrated systems; solid-state quantum systems; wearable or implantable biomedical electronics; AI/ML co-design of hardware and software systems for energy and computational efficiency.

Examples of topics include, but are not limited to:

- Wireless communication, radar, and imaging systems with advanced functionalities and/or significant performance improvements enabled by wafer-scale or panel-scale HI.
- Smart sensing systems integrating sensors of different modalities for advanced performance in various environmental conditions/applications, secure and energy-efficient communication network interface, and AI/ML for making intelligent decisions from data gathered by sensors.
- Heterogeneously integrated electronic/photonic/magnetic platform for energy-efficient high-performance computing/communication/sensing.
- Transformation from monolithic system-on-chips (SoCs) to multi-die designs with a comprehensive and scalable solution for fast heterogeneous integration. This may include architecture exploration, rapid software development and system validation, efficient die/package co-design, robust die-to-die connectivity, and improved manufacturing and reliability.
- Modular or socketed compute modules and ICs, fine-pitch out-of-plane optical couplers, optical backplanes and optical switch integration, system power delivery, and thermal solutions.
- Optical and electrical communication fabrics capable of panel edge to panel edge reach without active repeaters, low-loss waveguides, optical switches, temperature resilient photonics, and ultra-low energy I/O.
- Dynamically programmable fabrics, mesh networks, hierarchical networks, network protocols to optimize bandwidth/latency, and algorithms for libraries of collective operations.
- System architecture designs featuring redundant and resilient circuit techniques.

Link to Additional Information: <https://new.nsf.gov/funding/opportunities/ascent-addressing-systems-challenges-through-engineering-teams/nsf25-503/solicitation>

2. NIDCD Early Career Research (ECR) Award (R21 Clinical Trial Optional), NIH

Submission Window: January 19, 2025 – February 19, 2025

Award Budget: up to \$375,000 for a duration of up to three years

The NIDCD Early Career Research (ECR) Award is different from other NIH R21 programs. **It is restricted to clinical and basic scientists who are transitioning to, or are already in the early stages of, their independent research career.** The research should be focused on one or more of the areas within the biomedical and behavioral scientific mission of the NIDCD, specifically: hearing, balance, smell, taste, voice, speech, or language. The expected outcome from projects funded under this mechanism is the acquisition of necessary preliminary data for a subsequent research project grant (R01) application.

The proposed project may or may not be hypothesis-driven since the goal is to collect the necessary preliminary data sufficient to apply for an R01 grant. The project may aid in the formulation of hypotheses and may be milestone-driven or descriptive in scope. Given that the goal is to collect preliminary data, R21 projects may be less immediately impactful or significant compared to the typical R01. It is not an expectation that this R21 project will likely "move the field forward" at this stage.

Preliminary data are not required. However, the project should be supported by sufficient information to give confidence to the reviewers that the proposed work is feasible and that data derived from the project would likely be suitable as preliminary data for a subsequent R01 application. If preliminary data are available, it is recommended that these be included.

The NIDCD ECR Award R21 may be used by beginning clinical scientists planning a future application for an NIDCD K08 or K23 mentored research career development award to demonstrate the feasibility of the research project to be proposed in their K-award application. The PD/PI's total level of effort must remain at 75% (9 person-months based on a 12-month calendar) or more across the K-award and the R21 award.

Questions regarding eligibility should be addressed prior to beginning to prepare the application by contacting the training staff member.

Link to Additional Information: <https://grants.nih.gov/grants/guide/pa-files/PA-25-120.html>

3. NCMRR Early Career Research Award (R03 Clinical Trial Optional), NIH

Application Deadlines: February 16, 2024

Award Budget: up to \$200,000 per year for a maximum project period of two years

The NCMRR Early Career Research (ECR) Award is different from other NIH R03 programs, including the Parent R03 Announcement. It is restricted to clinical and basic scientists who are in the early stages of their independent career in rehabilitation research. For projects supported by an ECR R03 Award, successful results should provide a solid foundation for further research under the R01 funding mechanism.

Given that the goal is to collect preliminary data, R03 projects may be less immediately impactful or significant compared to the typical R01 or other NIH-funded projects. It is not an expectation that this R03 project will likely "move the field forward" at this stage.

The research must be focused on one or more of the areas within the biomedical and behavioral mission of NCMRR: pathophysiology and management of chronically injured nervous and musculoskeletal systems (including stroke, traumatic brain injury, spinal cord injury, and orthopedic conditions); repair and recovery of motor function; functional plasticity, adaptation, and windows of opportunity for rehabilitative interventions; rehabilitative strategies involving pharmaceutical, stimulation, and neuroengineering approaches, exercise, motor training, and behavioral modifications; pediatric rehabilitation; secondary conditions associated with chronic disabilities; improved diagnosis, assessment, and

outcome measures; and development of orthotics, prosthetics, and other assistive technologies and devices.

The following topics are non-responsive and will be withdrawn prior to review:

- Projects focusing on cognitive rehabilitation without a physical rehabilitation component
- Sports medicine rehabilitation for people without physical disabilities (i.e. Projects targeting indications for sports or athletic performance by able-bodied athletes; treatment, recovery and prevention of injuries related to sports and exercise by people without physical disabilities.)

The proposed project may be technology design-directed, discovery-driven, or hypothesis-driven with the goal of collecting the necessary preliminary data sufficient to apply for an R01 grant. The project may aid in the formulation of hypotheses and may be milestone-driven or descriptive in scope. Preliminary data are not required or expected. However, if available, preliminary data are allowed.

To help accomplish the goal of increasing the diversity of the NICHD-supported research community, NICHD encourages applications from diverse investigators, including those that are underrepresented in the biomedical, behavioral or clinical research workforce. Such individuals include women, those from underrepresented racial and ethnic groups, those with disabilities, and those from disadvantaged backgrounds.

Link to Additional Information: <https://grants.nih.gov/grants/guide/pa-files/PAR-23-029.html>

4. Build and Broaden: Enhancing Social, Behavioral and Economic Science Research and Capacity at Minority-Serving Institutions (B2), NSF

Application Deadline: January 23, 2025

Anticipated Funding Amount: \$8,000,000 for 25 to 30 projects

The Directorate for Social, Behavioral and Economic Sciences (SBE) supports research in many areas associated with our evolving world, including fundamental research on human behavior and surrounding social, economic and natural environments. Research supported in SBE advances the understanding of people, social organizations and society in a changing world where there are increasing new opportunities for interconnectedness as well as challenges that affect the ability to live dignified, healthy and productive lives.

The goal of the SBE B2 funding opportunity is to encourage submission of proposals from MSIs, and partnerships with and among MSIs, in order to advance fundamental research and build capacity in the SBE sciences. NSF's SBE directorate welcomes submission of proposals from MSIs, and from partnerships that include MSIs, that address any of the research areas supported by the directorate.

B2 is designed to support research projects that:

- Contribute to stronger, more innovative science by diversifying research and widening the STEM pipeline.
- Furthers intellectual innovation in the social and behavioral sciences.
- Provide researchers with new ways to diversify and sustain collaborations.
- Build capacity and enhance research productivity in the SBE sciences at MSIs.
- Foster partnerships that strengthen career and research trajectories for faculty at MSIs.

Supported projects are expected to yield results that will promote scientific progress; advance national health, prosperity and welfare; strengthen collaborative research initiatives involving MSI scholars and MSI institutions; and establish more robust training and research networks among researchers in the SBE sciences and across other disciplines that have similar interests.

In addition to standard research and collaborative research proposals that advance research and build capacity for

investigators at MSIs, the B2 Program also invites conference proposals, Early-concept Grants for Exploratory Research (EAGER) proposals) and Research Coordination Network (RCN) proposals (for more information on conference proposals and EAGERS, please consult the PAPPG). EAGER and RCN proposals should describe exploratory and experimental activities involving projects that are theory-driven with outcomes that may be uncertain and involve risk. Proposals may address any of the scientific areas supported by SBE.

Link to Additional Information: https://new.nsf.gov/funding/opportunities/b2-build-broaden-enhancing-social-behavioral-economic-science/505864/nsf25-505/solicitation?WT_mc_id=USNSF_25&WT_mc_ev=click

5. Fulbright-Hays Group Projects Abroad Program, Dept. of Education

Application Deadline: January 21, 2025

Award Amount:

- **GPA short-term projects:** range from \$50,000 to \$180,000 for a project period of up to 18 months
- **GPA long-term projects:** range from \$50,000 to \$300,000 for a project period of up to 24 months

The purpose of the Fulbright-Hays GPA Program is to promote, improve, and develop the study of modern foreign languages and area studies in the United States. The program provides opportunities for faculty, teachers, and undergraduate and graduate students to conduct group projects overseas. Projects may include either (1) short-term seminars, curriculum development, or group research or study, or (2) long-term advanced intensive language programs.

This competition invites applicants to submit an application to request support for either a Fulbright-Hays GPA short-term project (GPA short-term project 84.021A) or a Fulbright-Hays GPA long-term project (GPA long-term project 84.021B). Applicants must clearly indicate on SF 424, the Application for Federal Assistance cover sheet, whether they are applying for a **GPA short-term project (84.021A)** or a **GPA long-term project (84.021B)**.

There are three types of GPA short-term projects: (1) short-term seminar projects of 4 to 6 weeks in length designed by the applicant to help participants integrate international studies into the curriculum at an institution of higher education (IHE) or a school system when they return to the United States, by focusing on a particular aspect of area studies, such as the culture of an area or country of study (34 CFR 664.11); (2) curriculum development projects of 4 to 8 weeks in length that provide participants the opportunity to acquire resource materials for curriculum development in modern foreign language and area studies for use and dissemination in the United States (34 CFR 664.12); and (3) group research or study projects of 3 to 12 months in duration designed to give participants the opportunity to undertake research or study in a foreign country (34 CFR 664.13).

GPA long-term projects are advanced overseas intensive language programs designed by the applicant that may be carried out during a full year, an academic year, a semester, a trimester, a quarter, or a summer. GPA long-term projects provide participants an opportunity to use and strengthen their advanced language training while experiencing the culture in the foreign country. Participants should have successfully completed at least 2 academic years of training in the language to be studied to be eligible to participate in a GPA intensive advanced language training program. In addition, the language to be studied must be indigenous to the host country and maximum use must be made of local institutions and personnel (34 CFR 664.14).

Priorities: This notice contains one absolute priority and five competitive preference priorities.

- **Absolute Priority:** Specific Geographic Regions of the World.
A group project that focuses on one or more of the following geographic regions of the world: Africa, East Asia, South Asia, Southeast Asia and the Pacific, the Western Hemisphere (Central and South America, Mexico, and the Caribbean), Eastern and Central Europe and Eurasia, and the Near East.
- **Competitive Preference Priorities:**
 - *Competitive Preference Priority 1:* for GPA Short-Term Projects from Selected Institutions and

Organizations. Applications for GPA short-term projects from the following types of institutions and organizations:

- Minority-Serving Institutions (MSIs)
 - Community colleges (as defined in this notice)
 - New applicants (as defined in this notice)
 - State educational agencies (SEAs)
- *Competitive Preference Priority 2: Applications for GPA Long-Term Projects from MSIs.* Applications for GPA long-term advanced overseas intensive language training projects from MSIs.
 - *Competitive Preference Priority 3: Substantive Training and Thematic Focus on Less Commonly Taught Languages.* Applications that propose GPA short-term projects or GPA long-term projects that provide substantive training and thematic focus on any modern foreign language except French, German, or Spanish.
 - *Competitive Preference Priority 4: Inclusion of K–12 Educators.* Applications that propose short-term projects abroad that develop and improve foreign language studies, area studies, or both at elementary and secondary schools by including K–12 teachers or K–12 administrators as at least 50 percent of the project participants.
 - *Competitive Preference Priority 5: Thematic Focus on Academic Fields.* Applications that propose short-term projects abroad in modern foreign languages and area studies with an academic focus on any of the following academic fields: science, technology, engineering, mathematics, computer science, education (comparative or international), international development, political science, public health, psychology, or economics.

Link to Additional Information: <https://www.govinfo.gov/content/pkg/FR-2024-10-25/pdf/2024-24900.pdf>

6. Organismal Response to Climate Change (ORCC), NSF

Application Deadlines: January 23, 2025

Anticipated Funding Amount: \$15,000,000 for 15 to 20 estimated number of awards

The goal of this solicitation is to integrate organismal mechanisms with eco-evolutionary approaches and models to improve our ability to predict organismal responses to changing climates. Projects that innovatively apply approaches that combine experimentation, computation, and modeling, that lead to new conceptual and theoretical insights and testable predictions about integrated organismal responses to climate change are encouraged. Research that integrates data across spatial/temporal/biological scales, leads to transformative methods, tools, and resources, and/or seeks breakthroughs in the understanding of complex traits and emergent properties of organisms (e.g., robustness, resilience) is also emphasized. This solicitation also seeks to support projects that use the foundational research results generated for use-inspired, translational outcomes that address societal challenges due to current and/or future climate changes.

This solicitation accepts proposals through two tracks:

- **Track 1: The Organismal Response to Climate Change (ORCC) Track** - The goal is to invite mechanistic studies of organismal response to climate change (ORCC) as a foundation that, when integrated with research at other levels of organization, will lead to a deeper understanding and better predictions of the integrity, the resilience, and the adaptation of organismal systems to climate change. Proposals are encouraged to include collaborative teams with an overarching goal of using convergence approaches across biological sub-disciplines to improve our ability to anticipate adaptive and maladaptive organismal responses to future and novel environmental conditions brought upon by climate change. All aspects of organismal response associated with global climate change are open for consideration, but proposals should integrate organismal mechanisms with eco-evolutionary approaches to be generalizable across temporal, geographic, and/or biological scales.

The ORCC track accepts three types of proposals:

- *Research proposals*: focused on incorporating mechanistic insights at the organismal level to increase understanding and the ability to accurately predict persistence, dynamics, resilience, and resistance of organisms to climate change. Competitive proposals should include explanations for how the findings obtained with any study system are generalizable to other systems and relevant to societal concerns generated by climate change, such as conservation, biodiversity, resource management, food security, disease and pest outbreaks, maintenance of ecosystem services, or planetary resilience.
- *Workshop and Conference proposals*: that bring together teams of scientists bridging experimental, ecological, oceanographic, computational, and/or '-omic' expertise to address research bottlenecks in climate change studies.
- **Track 2: The Microorganism-mediated Organismal Resilience to Climate Change (MMORCC) Track** - the U.S. National Science Foundation (NSF) Directorate for Biological Sciences (BIO), and The Paul G. Allen Frontiers Group and The Paul G. Allen Family Foundation have partnered to promote research in areas of shared priority focusing on microorganisms and their role in climate change. This partnership seeks to catalyze science that leverages systems-level approaches to query microorganism resilience and the dynamic dialogue across the host- microorganism continuum, which ultimately regulates microorganism-mediated resilience to environmental change across temporal (e.g., lifespan) and/or spatial (e.g., landscape) scales. The overarching goal is to leverage the power of microorganisms to develop practical solutions for mitigation and adaptation to climate change and build a resilient planet.

The MMORCC track ONLY accepts Research proposals designed to address significant knowledge gaps in our understanding of the molecular drivers and dynamics of microbial resilience to environmental change. Researchers embracing the call will integrate the interdisciplinary expertise needed to identify the physiological and molecular mechanisms underlying phenomenological observations as well as improve our ability to predict the limits of biological and global resilience as organisms (non-human) face changing and novel climate conditions.

Research foci include but are not limited to areas such as the mechanistic understanding of the resilience of microorganisms and symbiotic relationships involving microorganisms (including amongst microorganisms themselves) in changing environments; the role of multiple environmental stressors in shaping the functional dynamics of microorganisms and microorganismal symbioses; development of technologies in the field of microorganismal resilience and microorganism-mediated organismal resilience and sensitivity; and benefits and costs imparted by microorganismal resilience to the host organism across time and spatial scales. Research could include manipulations of target microorganisms or microbiomes for increased resilience or less vulnerability to climate change scenarios. Proposals with predictive models that incorporate mechanistic and dynamic perspectives on the resilience of microorganisms, microorganismal cohorts, or their symbionts are especially encouraged. In addition to mechanistic underpinnings, project outputs should have the capacity to integrate mechanistic insights at the organismal level with eco-evolutionary approaches to produce synergistic research outcomes that may lead to novel, unexpected, or major advances in understanding and/or prediction of biological responses to climate. Creative approaches that leverage the outcomes of foundational research to inform use-inspired applications that address societal challenges caused by climate change for predicting, anticipating, and/or managing adverse effects of climate change are especially encouraged.

Link to Additional Information: <https://new.nsf.gov/funding/opportunities/orcc-organismal-response-climate-change/nsf25-504/solicitation#elig>

7. Behavioral Health Workforce Education and Training Program for Professionals, HRSA

Application Deadline: January 21, 2025

Anticipated Funding Amount: up to \$600,000 annually for a duration of up to four years

The purpose of the Behavioral Health Workforce Education and Training (BHWET) Program for Professionals is to increase the supply of behavioral health professionals and improve the distribution of a well-trained behavioral health workforce. The program has a specific focus on understanding the needs of children, adolescents, and young adults at risk for mental health, trauma, and behavioral health disorders.

The BHWET Program for Professionals prepares the workforce by emphasizing interprofessional team-based models of care, integrating behavioral health training in primary care settings and recruiting a diverse workforce interested in serving high need and high demand areas.

Program Objectives

- Increase the number of new or expanded community partnerships with experiential training sites in high-need and high-demand areas.
- Promote collaborative training by using team-based models of care to integrate behavioral health care into interprofessional primary care settings.
- Recruit a diverse workforce interested in working with children, adolescents, and young adults.
- Recruit, develop, and expand the capacity to train clinical supervisors to support and mentor behavioral health trainees.

Program Requirements and Expectations

You must address the following in your application and meet these expectations if you receive an award:

1. Provide stipend support to students who are in their final experiential training (internship or field placement) prior to graduation for no less than six consecutive months and no more than 12 consecutive months (or 24 months for part-time students).
2. Enhance didactic and experiential training activities that develop trainee competencies in behavioral health and its integration into primary care, school settings, and other sub-specialty care for the development and implementation of interprofessional training (two or more health disciplines).
3. Create or enhance current evidence-based interprofessional training programs for faculty and field site supervisors supporting BHWET Pro trainees.
4. Incorporate technology integration by providing options for distance learning, didactic and experiential training activities, and tele-behavioral health services, and by increasing digital health literacy.
5. Establish relationships with community-based partners to assist students with job placement after graduation.
6. Collect National Provider Identifier (NPI) numbers from all trainees before the end of the training year. Trainees who receive HRSA funds from the BHWET Program for Professionals must apply for and obtain a National Provider Identifier (NPI) number as a condition of their traineeship support. Recipient must collect and report the NPI numbers of behavioral health students who receive traineeship funds and follow-up with graduates to collect postgraduation employment demographics for a minimum of 1 year after graduation.
7. Provide continuous quality improvement for program evaluation and at completion of the period of performance. Award recipients are required to participate in federally designed evaluations upon request.
8. Collaborate regularly with other grant recipients of the BHWET Program for Professionals to leverage resources and enhance interprofessional training opportunities.

Link to Additional Information: <https://www.grants.gov/search-results-detail/355772>

8. Landmarks of American History and Culture, NEH

Application Deadline:

- **Optional Draft:** January 6, 2025
- **Full Proposals:** February 12, 2025

Award Amount: up to \$190,000 for a project period 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 2026. 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

Landmarks workshops designed for K-12 educators must include two separate sessions of five to seven days each for two different groups of participants (week one and week two).

Landmarks workshops designed for higher education faculty, advanced graduate students, and humanities professionals can include two separate sessions of five to seven days for two different groups of participants (week one and week two) or one session of eight to ten days for one group of participants.

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. Asynchronous and/or synchronous sessions can be held before and/or after the residential portion

of the program.

Given the importance of immersive study to Landmarks workshops, you should consider the variety of academic-year calendars when you schedule your workshops. Landmarks residential workshops are typically offered between the last week of June through the second week of August. If you propose activities outside the summer season, you may consider asynchronous and synchronous sessions before and/or after the summer program.

Institutional Resources

The following types of institutions may host and/or be involved in Landmarks workshops:

- institutions of higher education and non-profit organizations
- museums, historic preservation sites and societies, and libraries or other repositories
- centers for advanced study, cultural organizations, and professional associations
- schools or school systems

Project Audience

Workshops for K-12 educators:

- include full- or part-time educators who work in public, charter, independent, and/or religiously affiliated schools, or as home schooling educators.
- host 30-36 participants per week-long session for a total of 60-72 participants per workshop (week one and week two).
- reserve 20% of the available spots for educators who are new to the profession (five years or fewer of teaching experience).
- You may also admit individuals whose work lies outside classroom teaching but is directly related to humanities education (e.g., librarians, curriculum consultants, museum educators).

Workshops for higher education faculty and/or humanities professionals

- include full- or part-time faculty who teach undergraduate students at two and four-year public or private institutions of higher education and/or whose work lies outside of undergraduate teaching but is directly related to the humanities (e.g., librarians, archivists, etc.); and/or
- include full- or part-time humanities professionals associated with museums, historical societies, historic and cultural sites, libraries, archives, or who work as independent scholars.
- host two separate week-long sessions for 20-24 participants per session (for a total of 4048 participants) or one session of eight-ten days for 25-30 participants.
- reserve 20% of the available workshop spots for early career faculty (three or fewer years as higher education faculty), humanities professionals, and/or non-tenure track faculty.
- reserve 10% of the available workshop spots for advanced graduate students (individuals who have reached candidacy in a doctoral program or are in the final year of a terminal degree program).

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

9. Graduate Psychology Education Program (GPE), HRSA

Application Deadline: January 21, 2025

Award Amount: up to \$450,000 for a project period of three years

The purpose of this program is to train doctoral health service psychology students, interns, and postdoctoral residents in integrated, interdisciplinary behavioral health, with significant focus on trauma-informed care and substance use disorder prevention and treatment services.

The program will prepare trainees for practice in community-based primary care settings in high need and high demand

areas. To support trainees, the program will also focus on developing health service psychology faculty.

Program Goal

The GPE program has one goal: Increase the number of well-trained, culturally competent health service psychology students, interns, and post-doctoral residents, who are both prepared to address the needs of the communities they serve and committed to working in high need and high demand areas after graduation.

Program Objectives

To achieve the program's goal, you will need to accomplish the following objectives if funded:

- Recruit, train, and prepare trainees for the community-based primary care settings they will serve in.
- Provide trainees with didactic and experiential training curricula, including trauma-informed care, substance use disorder (SUD)/opioid use disorder (OUD) prevention and treatment services, along with interdisciplinary training.
- Develop academic and clinical partnerships.
- Provide ongoing faculty development and staff training.

Program Requirements and Expectations

You must address the following in your application and meet these expectations if you receive an award:

1. Recruit a diverse group of doctoral health service psychology students, interns, and/or post-doctoral resident level trainees committed to completing integrated, interdisciplinary behavioral health training and the requirements of the GPE program. Additionally, trainees should demonstrate an interest in working with people in high-need, high-demand areas after graduation.
2. Provide stipend support to GPE trainees.
3. Enhance didactic and experiential training activities to improve health service psychology trainee competencies. This training must include a focus on:
 - a. Opioid use disorder (OUD) and other substance use disorders (SUD)
 - b. Trauma-informed care
 - c. Tele-behavioral health strategies
 - d. Knowledge and understanding of behavioral health disorders in children, adolescents and [transitional-age youth](#115–contacts-and-support–program-specific-definitions)
 - e. Other focus areas may include:
 - i. Medications for Opioid Use Disorder (MOUD) and other substance use disorders.
 - ii. Social determinants of health (SDOH)
 - iii. Supporting provider mental health and well-being
 - iv. You must ensure that:
 1. Integrated, interdisciplinary training in team-based care includes two or more health disciplines besides psychology.
 2. At least 25 percent of time in training sites includes experiential training on OUD and other SUD prevention and treatment.
 3. Training sites provide an integrated, interdisciplinary behavioral health experience including in community-based primary care settings located in high need and high demand areas.
4. Develop or expand academic and community-based partnerships to provide experiences in different settings. Examples may include (but are not limited to) HRSA-supported health centers, other community-based health centers, rural clinics, academic institutions, K-12 schools, correctional facilities, and/or specialized residential facilities.
5. Conduct faculty and staff development training that supports the trainee curriculum.
6. Collect:

- a. National Provider Identifier (NPI) numbers from all trainees before the end of the training year.
- b. Post-graduation employment demographics for at least 1 year after program completion.
7. Inform GPE trainees about HRSA-sponsored loan repayment programs. Also inform trainees that they receive funding priority when applying for the National Health Service Corps Loan Repayment Programs.
8. Use evidence-based monitoring practices to collect specified program and performance data for the purpose of:
 - a. Meeting HRSA data collection requirements.
 - b. Continuous program evaluation and improvement during the 3-year period of performance.
9. Collaborate with the identified HRSA technical assistance provider at least once per budget period.
10. Participate in federally designed evaluations to assess program effectiveness and efficiency upon request.

Link to Additional Information: <https://www.grants.gov/search-results-detail/355771>

10. Development of Biomarkers or Composite Biomarkers for Neurological and Neuromuscular Disorders (R61/R33 - Clinical Trial Optional), NIH

Application Deadlines:

- **Letter of Intent:** 30 days prior to the application due date
- **Full Proposal:** February 21, 2025

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

The purpose of this Notice of Funding Opportunity (NOFO) is to conduct proof of concept biomarker discovery and development studies followed by preliminary clinical validation to evaluate if the candidate biomarker or composite biomarker may be fit-for-purpose for use in clinical trials or clinical practice. This NOFO uses a phased R61/R33 mechanism in which the R61 phase is used to test a hypothesis regarding the candidate biomarker or composite biomarker's relationship to the biological concept of interest and may also be used to develop or optimize the method for measuring the biomarker or composite biomarker (the method of detection). The R33 phase is to conduct the preliminary clinical validation to test the utility of the biomarker or biomarker signature for one or two specified Context(s) of Use. Applications should directly address how the candidate biomarker(s) or biomarker signature would fill an unmet need (i.e. better reliability, more cost-effective, significantly improved sensitivity and specificity, etc.) and how the biomarker/composite would be an advantage over existing standards. The Context(s) of Use should be carefully considered and clearly described as studies are expected to directly test the candidate biomarker or composite biomarker for one or more Context of Uses in the R33 phase. Biomarkers are used to make decisions at the level of the individual patient or person; therefore, the study design and analyses proposed are expected to establish initial decision-making criteria for how the readout of the biomarker result would be used for the proposed context of use. The rationale for the proposed studies should be supported by strong biological plausibility linking the candidate biomarker or composite with the pathophysiological process(es) of interest. Applications focused on understanding biological mechanisms, networks, or other fundamental knowledge rather than focused on developing biomarkers for use as a clinical trial tool or for use in clinical practice to help guide clinical care decisions are not appropriate for this funding opportunity. Projects that successfully complete both the R61 and R33 phases should meet the entry criteria for the later stage Analytical and Clinical Validation PARs.

Project Characteristics

The biomarker or biomarker signature must be focused on a neurological or neuromuscular disease or disorder within the NINDS mission.

Applications are expected to provide:

- **A strong biological rationale:** Projects should include a cogent biological rationale supporting the concept and plausibility of the candidate biomarker or biomarker signature. The biological rationale should include rigorously obtained evidence that the proposed biomarker or biomarker signature concept may be an indicator of normal biological processes, potential susceptibility or risk, pathogenic processes, or response to an exposure or

intervention, including therapeutic interventions (as appropriate for the Context of Use).

- **Clear clinical unmet need and justification for use as a tool in neurotherapeutic development or clinical practice:** Projects should address how the candidate biomarker or composite biomarker will fill an unmet need for neurotherapeutic development or clinical practice and address how, if successful, the biomarker would be an improvement on current available tools for the Context of Use(s) proposed.
- **A rigorous and clearly described study design:** In the R61 phase the study should be designed to establish/confirm the candidate biomarker's ability to be used as an indicator for the biological process or response to an intervention and the relationship to the clinical concept(s) of interest, as well as establish the performance of the detection method; in the R33 phase the study should conduct preliminary clinical validation of the biomarker or composite biomarker using the optimized detection method to test the utility on an independent cohort for one or two Contexts of Use. The end of the R61 must include milestones defining the performance criteria that need to be met for the biomarker and method of detection in order to be useful for the Context of Use proposed in the R33 phase.

Examples of Biomarker or Biomarker Signature Studies Supported in this NOFO Include, but Are Not Limited to:

- Characterization of a candidate biomarker in clinical samples or data relative to the biological process and clinical outcomes of interest, as well as optimization of the detection method, followed by retrospective or prospective testing in an independent clinical cohort in the R33 phase to determine the sensitivity and specificity of the biomarker or biomarker signature for a specified Context of Use
- Development and evaluation of a candidate biomarker signature algorithm from a set of known biological markers associated with neurological or neuromuscular disorders to optimize the algorithm including establishing sample/data curation or collection procedures for one or more Context of Uses, followed by testing the optimized algorithm in an independent cohort in the R33 phase for one or two specified Context(s) of Use
- Unbiased discovery approaches from one or more large multisite datasets or sample repositories to identify new biomarkers and characterize their relationship to relevant biological processes and outcomes within a disease or condition, followed by prospective validation in the R33 phase for a specified Context of Use
- Retrospective analyses of longitudinal studies (such as natural history studies) data to evaluate one or more candidate biomarkers' ability to monitor changes in disease state or predict progression followed by independent validation with an optimized protocol in the R33 phase for a specified Context of Use
- First in human identification or evaluation of a candidate pharmacodynamic/response biomarker to determine the candidate biomarker's ability to be used to demonstrate target engagement or establish dosing decisions in response to a therapeutic intervention and to develop or optimize the detection method using samples and/or data from one or more clinical trials, followed by independent validation using the optimized method in the R33 phase.

The R61 phase may include preliminary Analytical Validation of the detection method including metrics such as:

- Precision
- Accuracy
- Analytical sensitivity
- Analytical specificity including interfering substances or signals
- Reportable range of test results for the test system
- Reference intervals (range of normal values) with controls and calibrators
- Harmonization of analytical performance if the method of detection is to be performed in multiple laboratories

- Establishment of appropriate quality control and improvement procedures
- Any other performance characteristic required to test performance with determination of calibration and control procedures

The R33 phase may include preliminary Clinical Validation of the biomarker or signature including metrics such as:

- Demonstration that the result of the biomarker detection method is associated with a clinical endpoint (e.g., response to a therapeutic, target engagement, neuro-pathophysiology or clinical manifestation) in samples or data from patients that have been exposed to an intervention or confirmation that they have or will develop a disease or disorder.
- Demonstration of clinical sensitivity and specificity for the intended use of the biomarker or biomarker signature as evaluated through an area under the AUROC and/or continuous outcome measures, as appropriate.

Investigator Team Characteristics

Multidisciplinary teams are necessary for successful development of candidate biomarkers and biomarker signatures. Areas of expertise needed include biomarker development, clinical expertise relevant for the clinical populations of interest, statistical and/or bioinformatics analysis, experience with the use and development of the detection method technology, biosample, data or tissue source standardization, and biological expertise in the disorder/disease pathophysiology. Investigators are encouraged to form collaborations and seek additional consultants as needed for the project.

Pre-Application Consultation

Applicants are strongly encouraged to consult with NIH Scientific/Research Staff early on during the planning for an application. This early contact will provide an opportunity to discuss and clarify NINDS policies and guidelines, including the scope of the project relative to the NINDS or NIA mission and intent of this NOFO. In order to learn more about this NOFO and to have the opportunity to ask questions, a pre-application informational webinar is held at least once a year (usually in December and/or April) and the recordings are posted online at: <https://www.ninds.nih.gov/current-research/focus-tools-topics/focus-biomarkers-research> under the News & Events section.

Link to Additional Information: <https://grants.nih.gov/grants/guide/pa-files/PA-25-024.html>

11. Centers of Excellence in Maternal and Child Health Education, Science, and Practice, HRSA

Application Deadlines: December 12, 2024

Award Budget:

- **Centers of Excellence (CoE):** up to \$366,769 per year for a project period of five years
- **MCH Postdoctoral Fellowship:** up to \$170,000 per year for a project period of five years

The purpose of the Centers of Excellence in Maternal and Child Health (MCH) Education, Science, and Practice (CoE) program is:

- To strengthen and expand the MCH workforce by training graduate and post-graduate public health students in MCH.
- To advance MCH science, research, practice, and policy through a well-trained MCH public health workforce.

The program goals are to:

- Establish national centers that recruit and train graduate and post-graduate students in MCH public health and support faculty experts who provide technical assistance to the MCH public health field.
- Expand the MCH public health workforce.

The program objectives to be accomplished during the period of performance include:

- Provide didactic and experiential training in MCH public health that leads to a graduate-level MCH degree, certificate, or concentration.
- Recruit and train students from backgrounds that are underrepresented in the MCH workforce, including but not limited to students from economically disadvantaged and racially/ethnically underrepresented backgrounds.
- Retain and graduate at least 80% of MCH public health students who complete over 300 hours of training per student.
- Establish or strengthen a minimum of three academic-practice partnerships with state Title V Maternal and Child Health Services Block Grant recipient agencies or community organizations to provide MCH subject matter expertise.

This notice includes an additional opportunity to apply for the MCH Postdoctoral Fellowship Supplement. The purpose of this supplement is to support postdoctoral training to:

- Increase the number of faculty in MCH academia, increase MCH research and teaching capacity within Schools and Programs of Public Health.
- Enhance skills in the formation of MCH policy, including the translation of research to practice and policy.

This notice also includes an additional opportunity to apply for the CoE Emerging Issues Supplement. The purpose of this supplement is to:

- Support CoE programs to respond to emerging issues in MCH public health.
- Expand the reach of CoE activities to underserved communities with MCH needs.

To achieve the goals and objectives stated in the purpose section, you are expected to complete the following activities.

- **Training and education** - Maintain a comprehensive, graduate-level MCH public health curriculum. The MCH curriculum should lead to a master's or doctoral-level MCH degree, certificate, or concentration that is formally recognized by your institution and meets the requirements for such a degree, certificate, or concentration outlined by the Council for Education on Public Health (CEPH). Offer at least one foundational MCH course that covers MCH history, social determinants of health, Title V and related MCH legislation, and life course theory. Provide additional MCH courses and/or electives that build upon the foundational course and introduce students to diverse topics in MCH. Implement an MCH curriculum. Provide opportunities for student engagement in MCH research, program implementation, or program evaluation projects during their training.
- **Trainee recruitment and retention** - Recruit and retain students from backgrounds that are underrepresented in the MCH workforce, including but not limited to students from economically disadvantaged and racially or ethnically underrepresented backgrounds. Train at least 50 graduate-level (master's and/or doctoral) students annually. At least 50% should be long-term trainees.
- **Faculty** - Identify a Project Director (PD) who will have direct, day-to-day responsibility for grant activities. Identify core faculty who will support this program and advise and mentor students. Faculty should represent diverse disciplines, demonstrate expertise in MCH, and have a strong track record in working with and mentoring students from underrepresented backgrounds.
- **MCH student interest group** - Support a student-led MCH student group that builds community and advances a shared interest in MCH public health, leadership development, and MCH-related careers at your institution.
- **Consultation and subject matter expertise** - Provide technical assistance, consultation, or subject matter expertise to state Title V Maternal and Child Health Services Block Grant recipient agencies or MCH organizations, particularly those in underserved communities.
- **Partnerships** - Establish or strengthen a minimum of three academic-practice partnerships in your state or region. One partnership must be with a state Title V MCH agency.

- **Advisory committees** - Establish an advisory committee to guide your program's activities and plans. The advisory committee should include students and/or alumni, faculty, state Title V agency leadership, community members, and people with lived experience.

Link to Additional Information: <https://www.grants.gov/search-results-detail/355638>

12. Shared Instrumentation Grant (SIG) Program (S10 Clinical Trial Not Allowed), NIH

Application Deadline: June 2, 2025

Award Information: range from \$50,000 to \$750,000 for a single, commercially available instrument or an integrated instrumentation system.

The objective of the Shared Instrumentation Grant (SIG) Program is to make available to institutions high-priced research instruments that can only be justified on a shared-use basis and that are needed for NIH-supported projects in basic, translational, or clinical biomedical and biobehavioral research. The SIG Program provides funds to purchase or upgrade a single item of expensive, state-of-the-art, specialized, commercially available instrument or an integrated instrumentation system. An integrated instrumentation system is one in which the components, when used in conjunction with one another, perform a function that no single component can provide. The components must be dedicated to the system and not used independently.

Types of supported instruments include, but are not limited to: X-ray diffractometers, mass spectrometers, nuclear magnetic resonance (NMR) spectrometers, DNA and protein sequencers, biosensors, electron and light microscopes, flow cytometers, high throughput robotic screening systems, and biomedical imagers. Applications for standalone computer systems (supercomputers, computer clusters and data storage systems) will only be considered if the system is solely dedicated to biomedical research.

All instruments, integrated systems, and computer systems must be dedicated to research only.

Foreign-made instruments are allowed.

Applicants are advised to discuss with the SIG Scientific/Research Contact for questions about appropriate types of instruments, eligibility, and Program requirements, prior to submitting an application for an integrated instrumentation system.

Link to Additional Information: <https://grants.nih.gov/grants/guide/pa-files/PAR-24-265.html>

13. High-End Instrumentation (HEI) Grant Program (S10 Clinical Trial Not Allowed), NIH

Application Deadlines: June 02, 2025

Award Budget: range from \$750,001 to \$2,000,000 for a single, commercially available instrument or an integrated instrumentation system.

This funding opportunity is to continue the High-End Instrumentation (HEI) Grant Program administered by ORIP. The objective of the Program is to make available to institutions high-end research instruments that can only be justified on a shared-use basis and that are needed for NIH-supported projects in basic, translational, and clinical biomedical or biobehavioral research. The HEI program provides funds to purchase or upgrade a single item of expensive, leading-edge, specialized, commercially available instrument or an integrated instrumentation system. An integrated instrumentation system is one in which the components, when used in conjunction with one another, perform a function that no single component can provide. The components must be dedicated to the system and not used independently.

Types of supported instruments include, but are not limited to: MRI imagers, PET/CT imagers, cyclotrons, photoacoustic imagers, mass spectrometers, NMR spectrometers, electron microscopes, cryo-electron microscopes, X-ray

diffractometers, and super-resolution microscopes. Applications for standalone computer systems (supercomputers, computer clusters and data storage systems) will only be considered if the system is solely dedicated to biomedical research.

In particular, the HEI program enables the introduction of advanced leading-edge technologies providing new capabilities to biomedical research. In such cases, a risk-return trade-off is expected and allowed. Due to the novelty of the technologies and the uniqueness of their implementation, specialized and technologically savvy groups of investigators will be needed to lead the adoption of such advanced instruments for biomedical research and to develop innovative biomedical applications. Therefore, if such a novel instrument is requested, the applicant should demonstrate special technical expertise, merging multiple fields of science and technology, such as biology, physics, and bioinformatics. For integrated systems, the applicant must provide a detailed description about how the system will be put together and about the technical expertise of the individual(s) who will be responsible for assembling the system. The applicant must also provide a detailed description of training for the investigators listed in the application about the use of the novel technology in advancing their research. Accordingly, the HEI program requires that any unique instrument or an integrated system must be developed by reliable commercial vendors and guaranteed by the manufacturer's one-year warranty.

All instruments and integrated systems must be dedicated to biomedical research only.

In rare special circumstances when an institution cannot justify sole use of the high-end instrument for NIH-supported and other biomedical research, the institution may request a Special Use Instrument (SUI).

Foreign-made instruments are allowed.

To promote cost-effectiveness, encourage optimal sharing among individual investigators, and foster a collaborative multidisciplinary environment, the instrument should be integrated in a core facility, whenever possible.

Applicants are advised to discuss with the HEI Scientific/Research Contact any questions about appropriate types of equipment, eligibility, and Program requirements, prior to submitting an application for an integrated instrumentation system.

Link to Additional Information: <https://grants.nih.gov/grants/guide/pa-files/PA-24-264.html>

14. Dissemination and Implementation Research in Health (R01 Clinical Trial Optional), NIH

Application Deadlines:

- **Letter of Intent:** 30 days prior to the application due date
- **Full Proposal:** February 5, 2025

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

The purpose of this Notice of Funding Opportunity (NOFO) is to support studies that will identify, develop, and/or test strategies for overcoming barriers to the adoption, adaptation, integration, sustainability, scale-up, and spread of evidence-based interventions, practices, programs, tools, treatments, guidelines, and policies (herein referred to collectively as evidence-based interventions). Studies that promote equitable dissemination and implementation of evidence-based interventions among underrepresented communities are encouraged. Conversely, there is a benefit in understanding circumstances that create a need to stop or reduce (de-implement) the use of practices that are ineffective, unproven, low-value, or harmful. In addition, studies to advance dissemination and implementation research methods and measures are encouraged. Applications that focus on re-implementation of evidence-based health services that may be disrupted amidst disasters (e.g., pandemics, climate change) remain relevant.

Specific Objectives and Scope

This NOFO invites research grant applications that will identify, develop, and/or test strategies to disseminate and

implement evidence-based interventions into public health, clinical practice, and community (e.g., workplace, school, place of worship) settings. Studies that promote equitable dissemination and implementation of evidence-based interventions are encouraged. In addition, studies to advance dissemination and implementation research methods and measures are encouraged. All applications should be within the scope of the mission of at least one of the participating Institutes/Centers.

Examples of relevant research topics, involving a range of study designs, include but are not limited to:

- Rigorous implementation trials (including comparative effectiveness studies) that test implementation strategies to improve implementation outcomes, health services and community services outcomes, and/or patient or individual-level health outcomes.
- Studies on culturally tailored dissemination and implementation strategies to enhance the equitable reach, adoption, and integration of health promotion, prevention, screening, early detection, and diagnostic interventions, as well as effective treatments, clinical procedures or guidelines into existing care systems.
- Studies on the implementation of multiple integrated evidence-based interventions within community or clinical settings.
- Studies to identify factors and implementation strategies that contribute to the long-term sustainment of evidence-based interventions in public health and clinical practice.
- Studies testing dissemination or implementation strategies to improve health outcomes among populations experiencing health inequities.
- Studies that conduct economic evaluations (e.g., budget impact analysis, return-on-investment analysis) of dissemination and implementation strategies.
- Studies on implementation strategies to effectively scale-up and scale-out evidence-based interventions.
- Studies on strategies to effectively de-implement the use of clinical and community practices that are ineffective, unproven, low-value, or harmful.
- Studies on the relationship of context (e.g., social determinants of health, social needs, local capacity of clinical and community settings) to adoption, implementation, and sustainment of evidence-based interventions.
- Studies on influences on the creation, packaging, transmission, and reception of information about effective health interventions.
- Studies on the development, utility, or validity of novel methodological, statistical, systems modeling, and/or analytical approaches for a range of types of D&I studies.
- Studies that focus on empirical testing, validation, and/or refining of theories, models, and frameworks for D&I determinants, processes, and outcomes using primary or secondary data and robust statistical modeling procedures.
- Studies to develop and refine tools and techniques for advancing qualitative and ethnographic methods in D&I research (e.g., rapid qualitative analysis, cross-study qualitative data collection and analytical procedures, and efficient ethnographic data collection and analysis) to enhance contextual understanding of implementation.
- Studies that develop psychometrically sound and robust D&I-related measures and instruments, which includes (but is not limited to) testing for multiple types of validity (e.g., construct validity, predictive validity) and reliability (e.g., internal consistency, temporal stability) and assessing for practicality and utility.
- Studies that develop pragmatic and actionable measures to guide selection, continuation, and/or discontinuation of the use of particular implementation strategies over time.
- Studies to better understand the relationship between strength or level of evidence of an intervention and decision-making processes among key partners to adopt and implement (or de-adopt and de-implement) the intervention.
- Studies to develop robust methods and measures to support rapid, data-driven, and equitable adaptation of implementation strategies across implementation phases and implementation contexts.
- Studies on effective and collaborative approaches and processes for sharing qualitative, quantitative, and/or mixed methods D&I-related data with researchers, practitioners, and clinical and community partners that is actionable and mutually beneficial.
- Studies on how and when to effectively and equitably engage researchers, practitioners, policymakers, and key partners as collaborators and co-creators in D&I studies.

- Studies on policy implementation, such as identifying effective strategies for implementing health-related policies across federal, state, local and organizational settings.
- Studies examining team-level implementation determinants or integrating team effectiveness science into novel implementation strategies, especially studies to understand the implications of and test strategies to address implementation team membership change or champion turnover.
- Studies that test implementation strategies to address structural, social, system, or environmental factors using evidence-based interventions, and which have the potential to reduce health disparities.
- Studies that seek to build the science of strategies by understanding how discrete or multilevel /multicomponent implementation strategies work (mechanism of action), for whom, when, and under what conditions.

Key characteristics of dissemination and implementation (D&I) research that applicants could consider including in their applications (where applicable) include but are not limited to:

- Description and justification of the evidence-based intervention and hypothesized implementation strategies to improve implementation outcomes (e.g., acceptability, feasibility, adoption, fidelity, penetration, sustainability) as well as health service outcomes (e.g., quality, equity).
- Understanding of contextual factors that can influence dissemination or implementation of the evidence-based intervention in various settings under investigation
- Incorporation and justification of the use of D&I theories, models, and/or frameworks to inform study hypotheses, processes, measures, and outcomes.
- Consideration of the extant literature on barriers and facilitators, promising strategies, and/or putative mechanisms, of similar evidence-based interventions integrated in like settings.
- Identification of possible preconditions, mediators, moderators, and mechanisms of action that explain the impact of dissemination or implementation strategies on relevant outcomes.
- Consideration and characterization of the multi-level context and environment in which the proposed research will be conducted, including a description of the intended implementers.
- Consideration of the use of qualitative, mixed and/or multi-methods approaches.
- Development and/or use of appropriate D&I related outcomes, measures, and analyses. Applicants are encouraged to review available resources and use standard measures and validated instruments where possible, rather than developing their own measures for each study.
- Attention to issues of resources expended, program costs, cost-effectiveness, or other economic outcomes related to dissemination and/or implementation.
- Incorporation of engagement science (i.e., engagement-related research questions), and including outcomes relevant to patients, consumers, families, practitioners, administrators, healthcare system leaders, and/or policymakers.
- Formation of multidisciplinary or transdisciplinary teams of researchers and implementing partners, given the range of expertise that may be needed for conducting dissemination and implementation research.
- Adequate consideration and specification of the equity-related approach and outcomes.
- Articulation of methods for tracking changes in context and/or adaptation of implementation strategies throughout the course of the study.

Specific Institutes/Centers

1. National Cancer Institute (NCI)
2. National Eye Institute (NEI)
3. National Heart, Lung, and Blood Institute (NHLBI)
4. National Human Genome Research Institute (NHGRI)
5. National Institute on Aging (NIA)
6. National Institute of Allergy and Infectious Diseases (NIAID)
7. National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
8. National Institute on Minority Health and Health Disparities (NIMHD)

9. National Institute of Dental and Craniofacial Research (NIDCR)
10. National Center for Complementary and Integrative Health (NCCIH)
11. Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)
12. National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
13. National Institute of Nursing Research (NINR)
14. National Institute on Deafness and Other Communication Disorders (NIDCD)
15. National Institute of Neurological Disorders and Stroke (NINDS)
16. Office of Disease Prevention (ODP)
17. Tribal Health Research Office (THRO)

Applicants are encouraged to contact the Scientific/Research contact of the intended I/C to ensure that the aims of the proposed project are consistent with I/C mission.

Link to Additional Information: <https://grants.nih.gov/grants/guide/pa-files/PA-25-144.html>

15. Computational Approaches to Curation at Scale for Biomedical Research Assets (R01 Clinical Trial Not Allowed), NIH

Application Deadlines:

- **Letter of Intent:** 30 days prior to the application due date
- **Full Proposal:** January 28, 2025

Award Budget: up to \$250,000 direct costs per year for a maximum project period of four years

NLM wishes to accelerate access to and availability of secure, complete datasets and computational models that can serve as the basis for transformative biomedical discoveries. Growing quantities of biomedical data produced from ongoing data science advances have resulted in continuous needs for data mining and knowledge discovery for a diverse range of biomedical data types. Innovative research strategies are needed to develop at-scale computational approaches that increase the speed and scope of curation processes, which catalog biomedical data and maximize data reach.

Digital curation supports data-driven biomedical discovery by providing access to large quantities of biomedical, health-related and basic biological research data, to computational models and tools, and to open-source software and code. Curation processes support data integration and harmonization involving the characterization, annotation, management and preservation of digital assets, including research datasets, computational and other types of models, reusable visualization tools, and other digital assets. Proficient curation supports FAIR (Findable, Accessible, Interoperable, Reusable) data management by maximizing data findability, accessibility, interoperability and reuse potential. It helps to preserve data, assure reproducibility of research, minimize duplication, and simplify the process of finding, managing, visualizing and mining a wide variety of digital assets. The wide array of biomedical data assets of interest to this funding opportunity include, but are not limited to:

- Public health or epidemiological data
- Molecular biology data types such as genomic, epigenomic, proteomic or genetic variant data
- Biomedical literature and associated metadata
- Biomedical imaging data
- Metabolomic data
- Environmental measurements
- Observational health data such as electronic health records, family histories or sensor readings from personal trackers
- Various other data assets of biomedical interest

Research Objectives

To achieve FAIR access to huge collections of biomedical digital data assets, new or improved approaches for automated

curation and management of digital assets must be designed, tested, validated, and widely adopted. Applications may propose the development of new computational methods or extend existing open-source tools and pipelines in order to enhance automation, improve efficiency, quality and security, and control costs. The following expectations must be addressed in all applications:

- A durable product is expected to inform and advance further research.
- Proposed approaches must identify the type of digital asset(s) being employed, including clear descriptions of data provenance and credibility.
- Intended use cases must be clearly stated and evaluated, with approaches expected to be wide-reaching.
- Detailed descriptions of approaches are expected, with metrics provided for the scope and scale of the study.
- Improvements over comparable existing management or curation approaches must be documented, and any limitations, trade-offs or risks resulting from the proposed innovative approach must be described and addressed.
- Applicants must describe a plan to account for accuracy of the product, to maintain the product, and to capture and communicate ethical considerations for downstream data use.
- All awardees are expected to widely disseminate the results of their research including software.

Initial input data employed by the product are expected to be preexisting, i.e., funding will not be provided for initial raw data derivation, such as for performance of medical tests or wet laboratory research.

Potential topics to be addressed include, but are not limited to:

- Fully automated curation that meets community-defined standards for metadata.
- Automated approaches to curate and harmonize public health data.
- Automated approaches for mining, formatting and harmonizing genomic, proteomic or genetic variant data found in disparate supplemental files in biomedical literature.
- Automated curation and categorization of epidemiological data, such as data across the socioeconomic spectrum.
- Automated approaches to curate metabolomic data.
- Automated approaches for curation of multi-faceted data, such as bioclinical, multi-omic, text metadata and bioimaging data suitable for combined ingestion and cataloging.
- Approaches for streamlining the effective capture and communication of ethical considerations for downstream data use.
- Approaches to achieve accurate, reliable and scalable community-driven curation of biomedical data.
- Automated annotation via extraction from text or other digital sources, linking the extracted information to a dataset or other digital asset.
- Automated quality control approaches that increase the completeness, accuracy or quality of a dataset or model.

Potential applicants are strongly encouraged to discuss their proposed project with the Scientific/Research Contacts for guidance about the application process and suitability of the project for support by NLM.

Link to Additional Information: <https://grants.nih.gov/grants/guide/pa-files/PAR-25-131.html>

16. Biomedical Research Environment & Sponsored Programs Administration Development (BRE-SPAD) Program (UC2- Clinical Trial Not Allowed), NIH

Application Deadline: February 19, 2025

Award Information: up to \$500,000 per year for a maximum project period of five years

Promoting broad participation in the extramural scientific workforce is critical to the success of the NIH mission and is consistent with the mandates of the 21st Century Cures Act. Benefits of a diverse scientific workforce include fostering scientific innovation, enhancing global competitiveness, building robust learning environments, improving research quality, advancing participation of underserved populations as research participants, and strengthening public trust.

The Biomedical Research Environment & Sponsored Program Administration Development (BRE-SPAD) program aims to promote broad participation in the biomedical research ecosystem by supporting RLIs with few to no biomedical research doctoral students to conduct research, enhance the research environment, and increase sponsored programs administration capacity. By supporting research capacity building at RLIs, the BRE-SPAD program will broaden the pool of faculty conducting biomedical research and the organizational settings where NIH-funded research is performed.

Program Considerations

The BRE-SPAD program is intended to support the development of biomedical research capacity. The biomedical research enterprise includes a range of research, including basic science, behavioral, social science, as well as translational and clinical research, and will be described hereafter as biomedical research. The BRE-SPAD program aims to support the needs of organizations that are in different stages of biomedical research capacity building. The BRE-SPAD program will support activities in the following areas (1-3). All applications should propose plans in at least two of the funding areas listed below:

1. **Sponsored Programs Administration Development:** For activities to increase sponsored programs administration capabilities, including staff, resources, training, policy development and other activities related to grants, contracts, activities to increase organizational funds available for research, and technology transfer.
2. **Research Environment:** For activities to cultivate growth in research and research education activities. Example activities include, but are not limited to, faculty grant writing training, student research training activities, course-based research development, research symposia, and research oversight policies and implementation.
3. **Pilot Research Project Program:** For the development of a program to administer internal pilot research project funding to faculty conducting biomedical research with the goal of generating preliminary data to enhance the competitiveness of securing external research funding.

NIH anticipates the following organizations may be involved in the BRE-SPAD program:

- Applicant organization is the organization submitting the BRE-SPAD application. The applicant organization is also considered to be a participating organization and should propose to receive developmental funds described above and must meet eligibility criteria.
- Optional additional participating organization(s) work with the applicant organization and propose to receive developmental funding in at least one of the funding areas above. All additional participating organizations must meet eligibility criteria. Only one member organization of a group of participating organizations serves as the applicant organization.
- Optional partner organization(s) will collaborate with the participating organization(s) to provide expertise and services. If partner organization(s) do not meet the eligibility criteria, they may not receive funding to develop capacity in the three areas above, but may receive consulting or service fees, for example.

Applications among multiple participating organizations are encouraged and may promote sharing of research administration functions, personnel, electronic systems, or forming alliances to organize central offices such as Institutional Review Boards (IRBs) or Institutional Animal Care and Use Committees (IACUCs). If multiple participating organizations are proposed, all participating organizations should benefit from the BRE-SPAD program.

All prospective applicants are strongly encouraged to contact a Scientific/Research Contact in advance of preparing and submitting an application.

Link to Additional Information: <https://grants.nih.gov/grants/guide/pa-files/PAR-24-268.html>

17. Bidirectional Influences Between Adolescent Social Media Use and Mental Health (R01 Clinical Trial Optional), NIH

Application Deadlines:

- **Letter of Intent:** 30 days prior to the application due date
- **Full Proposal:** January 28, 2025

Funds Available: \$5,000,000 in total costs in FY 2025 and FY 2026 to fund 5-6 awards

This notice of funding opportunity (NOFO) focuses on understanding relationships between social media use and adolescent mental health, psychiatric symptoms, and risk or resilience for psychopathology. For the purposes of this NOFO, social media are defined as internet-based communication platforms and applications that enable interactions between users by sharing or consuming information. Importantly, adolescents (broadly defined here as 10-20 years of age) have increasing access to social media and greater autonomy in their use of digital platforms.

Bidirectional effects of social media and adolescent mental health

Research submitted to this NOFO is expected to focus on the impacts of social media on adolescent mental health and/or how adolescent psychopathology influences social media use. Interactions via social media play an increasingly important role in adolescent development, but little is known about the mechanisms by which social media use may impact risk or resilience for psychopathology, which may also include understanding the roles of social and structural determinants of health. Identifying individual and contextual factors that may serve as modifiable targets for intervention is a high priority.

This NOFO prioritizes rigorous research studies that utilize sophisticated and fine-grained approaches to assess social media use and that move beyond simple assessments of time spent on social media. Applications are expected to define and justify the social media platforms examined, social media data collection methods (e.g., content type, exposure levels, mode of use, etc.), and age range of participants in the proposed research. For example, projects may quantify social behavior and social media use across one or more avenues of social media (e.g., platforms, texting, gaming, chats, videos) and across hardware platforms (e.g., phones, computers, gaming systems with social interaction) as needed to fit a project's conceptual framework and hypotheses. Collection of passive digital trace data, such as text analysis or movement and GPS data, is encouraged, as it offers an opportunity to study social media use by adolescents in their usage context and enrich our understanding of how they are utilizing social media.

Applications are encouraged to include a youth advisory board consistent with participant age to provide input on research design, interpretation of findings, and best avenues for dissemination of findings to adolescents and their communities. Applications may also consider incorporating an ethical research component or collaborations with ethics consultants to advance understanding of the ethical considerations and implications of social media research in adolescents, such as privacy of participants and their peers, parental consent vs. waiver, and reporting requirements for researchers, among others.

For the NIMH, areas of high priority include, but are not limited to:

- Understanding developmental influences on interactions between social media behavior and risk for psychopathology, including identification and exploration of sensitive periods.
- Potential neurodevelopmental mechanisms underlying social media experiences and their positive and/or negative associations with adolescent mental illness.
- Understanding social media behaviors and disparities in the mental health outcomes of rural, minoritized, and other underserved youth.
- Exposure to discrimination through social media use and its impact on mental health for youth of minoritized groups.
- Identification of neurobiological and psychological risk and protective factors that may serve as modifiable targets in future mental illness intervention development.
- Identification of positive attributes of social media environments that strengthen protective factors and create

positive social experiences, particularly for minoritized and marginalized youth.

- Influence of parent and peer behaviors on social media use and risk or resilience for psychopathology.
- The role of algorithmic bias on adolescent mental health, which may include the impact of exposure to violent, racist, discriminatory, or other traumatic content via social media.
- Methods development to advance the study of social media behavior, including methods for capturing cross-platform and cross-device behavior, video or language content, algorithmic exposure to content, and/or passive vs. active uses.
- Studies investigating the role of social comparison and risk for psychopathology, including but not limited to, peer social processes, body image comparison, and comparison with influencers and peers from dominant cultural groups with non-minoritized identities.
- Studies of novel technologies and their intersection with mental health, including artificial intelligence, virtual reality, smart glasses, and novel smartphone and wearable technologies.
- Comparison of in-person vs. digital social interactions to understand unique contributions of social media to social connectedness, social isolation, anxiety, and/or other psychopathology symptoms.
- Proximal impacts of adolescent social media engagement with mental illness symptoms and/or emotional regulation, reward processes, attention, and/or executive function.
- Experimental paradigms that test neurocognitive mechanisms through which social media platforms impact behavior and/or risk for psychopathology.
- Identifying mechanisms through which social media behaviors interact with symptoms of disordered eating.
- Mechanisms underlying the interaction of social media behaviors with attention, impulsivity, and/or other symptoms of ADHD.

Services and intervention

Increasingly, social media represents a primary source of information about mental health and related interventions and services for adolescents and their families. Given well-documented challenges related to accessing mental health services, social media also represents a potential delivery approach for facilitating access to care. This NOFO also encourages research focused on social media as a platform for facilitating the identification of adolescents with or at risk for mental illness, for encouraging appropriate mental health service use, and for delivering preventive and therapeutic interventions. Such research includes but is not limited to:

- Research using social media data to develop and validate algorithms for identifying youth who are exposed to negative online experiences or content or who might otherwise benefit from mental health evaluation or interventions. This could include developing and testing real-time interventions based on the risk characteristics.
- Research that leverages partnerships with purveyors of mental health-related information aimed at providing accurate content (i.e., psychoeducation) and embedding tools for online screening for early detection and strategies to promote referral, help-seeking, and treatment engagement.
- Studies focused on optimizing and testing preventive or therapeutic interventions for youth who are exposed to rejection/exclusion, discrimination, harassment, or other negative online messages and experiences (e.g., through cyberbullying), including interventions to promote digital citizenship (e.g., online safety, healthy social media use) and to facilitate coping and other adaptive behavior among adolescents with or at risk for mental illness (e.g., depression, anxiety, conduct problems, suicidal thoughts and behavior).
- Projects that test technology-based approaches to manage problematic social media use or exposure in adolescents, such as app wrappers, phone- or computer-based timers, use of cookies or other meta data to redirect to useful social media sites, content or time warnings, or post-exposure interventions.
- Studies that leverage social media to augment existing evidence-based preventive or therapeutic interventions (e.g., through moderated online communities or support groups, mobile health apps, etc.).
- Research that tests strategies for managing social media use and screen time (e.g., family-based interventions) that can be used to augment preventive and therapeutic interventions for youth with or at risk for mental illness.
- Studies that examine social media platforms to deliver scalable, research-informed preventive and therapeutic interventions that might be offered as first-line interventions to help mitigate provider shortages and limitations in

available mental health services.

- Studies that leverage social media to address disparities in access, use, engagement, and retention, or that improve quality or outcomes of care among adolescents from diverse cultural, racial, and ethnic backgrounds, and other underserved groups.

Potential applicants are strongly encouraged to consult with NIMH staff as early as possible when developing plans for an application. This early contact will provide an opportunity to clarify NIH policies and guidelines and help to identify whether the proposed project is consistent with NIMH program priorities and NOFO goals.

Link to Additional Information: <https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-25-205.html>

18. Geosciences Open Science Ecosystem (GEO OSE), NSF

Application Deadline:

- **Track 1:** February 14, 2025
- **Track 2:** November 14, 2025

Award Information:

- **Track 1:** up to \$500,000 for a project period of two years
- **Track 2:** up to \$1,000,000 for a project period of three years

The NSF Directorate for Geosciences (GEO) is interested in supporting a suite of activities that foster open science practices through an ecosystem of accessible and interconnected cyberinfrastructure and collaborative approaches that maximize the openness and accessibility of research and education in the geosciences. As a part of this overarching goal, this Geosciences Open Science Ecosystem (GEO OSE) program solicitation specifically seeks to support open science planning, coordination, and capacity-building within and across geoscience domains. As one component of the Geosciences Cyberinfrastructure (GEO CI) Incubator within GEO's Division of Research, Innovation, Synergies, and Education (RISE), the GEO OSE program complements related NSF initiatives that contribute to advancing open science capabilities and practices in the geosciences. These include programs across GEO Divisions and Offices, in NSF's Office of Advanced Cyberinfrastructure (OAC), and in NSF's Directorate for Technology, Innovation, and Partnerships (TIP). GEO OSE also complements open science efforts across federal agencies, including the USGS Community for Data Integration and NASA Transform to Open Science (TOPS) initiative, which are establishing open science communities of practice tied to their respective agency missions.

Program Description

This updated Geosciences Open Science Ecosystem (GEO OSE) program solicitation seeks to support efforts that foster open, inclusive, and equitable research practices and that leverage expanding information resources and computing capabilities to address interdisciplinary grand challenge research questions at the forefront of the geosciences. In this solicitation, "geosciences" refers to those research disciplines directly supported by the Geosciences Directorate at NSF, which includes the domains of atmospheric and geospace sciences, ocean sciences, Earth sciences, and polar sciences. Further details on the scientific topics that are supported in the geosciences can be found within descriptions of individual GEO programs (<https://www.nsf.gov/funding/programs.jsp?org=GEO>).

Priority goals for this GEO OSE solicitation are to:

1. Develop and foster adoption of open, inclusive, and equitable research practices across geoscience domains informed by open science principles, including (but not limited to) the FAIR, CARE, and TRUST Principles, as well as Reproducibility and Replicability;
2. advance transformational and innovative open science approaches that advance geosciences research and education by leveraging and building connections across the existing ecosystem of cyberinfrastructure resources, including data repositories, open-source software communities, and shared computing (e.g., high-performance and cloud computing);

- strengthen the capacity of current and future geoscientists to access, utilize, and collaborate within the growing ecosystem of open science resources, and to enable input and participation from the full spectrum of diverse talent that society has to offer which includes underrepresented and under-served communities.

To achieve these goals, this GEO OSE solicitation supports a variety of efforts to advance open science practices within the geosciences. This includes community/cohort building around defining a shared vision for open science and adopting open science practices within and across geoscience domains. It also includes development and implementation of open science approaches that accelerate geoscience research discovery via seamless workflows connecting data, software, physical collections, and computing, harnessing existing cyberinfrastructure, and building on common data/metadata standards. In addition, GEO OSE supports educational activities that instill open science practices and broaden adoption of cyberinfrastructure resources to reduce barriers to geoscience research and education.

Proposals in response to this solicitation may be submitted to either of two tracks that acknowledge the range of readiness levels across geosciences communities. The selection of tracks should primarily be determined by the size and scope of proposed efforts:

- Track 1:** These awards support smaller-scale activities seeking to organize geoscience research communities toward adoption of open science practices that accelerate scientific discovery in the geosciences. Awards may include open science planning activities for geoscience domains (e.g., development of community roadmaps), education/training initiatives that enable adoption of technologies that support open science practices, and/or mobilization campaigns to improve the openness of existing geoscience research programs. It is expected that supported projects will facilitate broad stakeholder involvement and address community-driven open science needs in the geosciences. Projects may guide the future design, development, and deployment of open science resources, possibly via separate NSF funding opportunities.
- Track 2:** These awards target larger-scale activities aimed at fostering transformation of geoscience research communities toward open science practices. Projects should be designed to grow user/developer communities within the existing ecosystem of capabilities (e.g., data repositories, software packages, computational resources) toward broad and sustained efforts to embed open science practices in the day-to-day research/education workflows of geoscientists. Submission to Track 2 does not require prior Track 1 support, but all Track 2 proposals must thoroughly describe the nature, extent, and outcomes of relevant prior efforts.

The scope of supported GEO OSE activities seeks to maximize the distinctive impact of this program while acknowledging related funding opportunities (see below). As a result, neither Track 1 nor Track 2 supports development of data repositories, software packages, development/acquisition of computational hardware, or other efforts primarily intended to create or maintain cyberinfrastructure, though projects that leverage the capabilities of existing cyberinfrastructure are appropriate.

Specific Requirements:

Proposals submitted in response to this solicitation must address the following Specific Requirements. Proposals will be evaluated on how successfully they meet these requirements (see Section VI.A, Merit Review Principles and Criteria):

- Geosciences Advancement:** Proposals must address how proposed activities will contribute to demonstrated needs for advancing geosciences research and/or education. Proposed activities should attract and include broad participation of geoscientists in the relevant domains throughout the duration of the project, starting in the first year. Projects should help to unlock new applications of geoscientific information and/or computing capabilities toward advancing geosciences understanding. Proposed developments should broadly benefit geosciences research and/or education communities beyond the immediate proposal team.
- Open Science Alignment:** Proposals must articulate a vision for advancing open science efforts within the geosciences, including how they envision and define open science for their target communities and how they will

complement the existing ecosystem of open science resources and initiatives. Expected open science outcomes should extend beyond increasing the openness of a single product, tool, or dataset; instead, projects should lead to a fundamental transformation of scientific practices within the intended geoscience domain(s).

Proposers are strongly encouraged to contact program director(s) from the list of Cognizant Program Officers, in the Division(s)/Office(s) associated with the scientific discipline(s) for which the proposed open science activities would be applicable, to ascertain the appropriate focus and scope of intended proposal submissions.

Link to Additional Information: <https://new.nsf.gov/funding/opportunities/geo-ose-geosciences-open-science-ecosystem/nsf25-506/solicitation>

19. Human-Environment and Geographical Sciences Program (HEGS), NSF

Application Deadline: February 3, 2025

Award Information: range from \$50,000 to \$750,000 for a single, commercially available instrument or an integrated instrumentation system.

- **Senior Research Proposals:** range between \$100,000 and \$500,000 for a project period of 48 months
- **Faculty Early Career Development Program (CAREER) Proposals:** range between \$400,000 and \$450,000
- **Research Coordination Networks (RCN):** up to \$350,000
- **Conference Proposals:** up to \$50,000
- **Transdisciplinary REsearch in Environmental Social Science (TREES) proposals:** range between \$200,000 and \$250,000 per year

The objective of the Human-Environment and Geographical Sciences program is to support basic scientific research about the nature, causes, consequences, or evolution of the spatial dimensions of human behaviors, activities, and dynamics as well as their interactions with environmental and social processes across a range of scales. Contemporary geographical research encompasses diverse research traditions and methodologies. Recognizing the breadth of the field's contributions to science, the HEGS program welcomes proposals for empirically grounded, theoretically engaged, methodologically rigorous, and generalizable research that advances geographical and geospatial sciences.

To advance these priorities, the HEGS Program supports multiple types of proposals. This solicitation provides additional guidance on the following proposal categories:

- **Senior Research Proposals:** The most common proposal type, the "senior" designation encompasses researchers who have a PhD or equivalent qualifications sufficient to enable independent research. A proposed project may include either a single researcher or a research team comprising a principal investigator along with co-principal investigators, other senior/key personnel, post-doctoral researchers and other personnel (including specialists from other disciplines and other countries) as needed for the scope of the research.
- **Faculty Early Career Development (CAREER) Program Proposals:** The HEGS program welcomes CAREER proposals from early-career researchers who meet the eligibility requirements of the NSF-wide CAREER program. Proposals should articulate the scientific objectives of the project and anticipated products while also describing how an award will set a trajectory for continued, related research after the funded activities have concluded. As noted in the CAREER solicitation, proposals must also include an educational component, and the HEGS program suggests that this component should creatively encompass more than conventional curricular development and pedagogy.
- **Research Coordination Networks (RCN):** Research Coordination Networks are an NSF-wide program, designed to catalyze new collaborations, typically with an interdisciplinary orientation. Proposals to the HEGS program must substantiate the novelty of the collaboration and the ways in which the funded activities will result in lasting impacts on the proposed research themes. The HEGS program suggests the involvement of diverse collaborators in multiple dimensions, including career stage, geographic, institutional, and disciplinary diversity.

Proposed activities should encompass infrastructural investments, broadly defined, which will facilitate future collaborative opportunities.

- **Conferences Proposals:** The HEGS program supports conferences that are thematically organized around HEGS research topics. Although conference proposals may be submitted at any time, proposals should typically be submitted at least 12 months in advance of the proposed event, and typically proposals should prioritize the active involvement of early-career researchers and groups that are underrepresented in the field.
- **Transdisciplinary REsearch in Environmental Social Science (TREES):** The science of socio-environmental systems involves the integration of social science and environmental science, but TREES projects must specifically result in advances in social and behavioral sciences to understand the complex interactions between people and the environment. TREES projects should pose research questions that will advance theory both in the science of socio-environmental systems and basic human-environmental and geographical sciences (HEGS). TREES proposals that are oriented toward contributions to anthropological science may be submitted to the Cultural Anthropology Program.

Supplements to current awards are also possible, contingent on the availability of programmatic funding. There are two broad categories for supplemental funding requests submitted to HEGS. First, as outlined in the PAPPG, small amounts of supplemental funding and up to six months of additional support may be requested to assure adequate completion of the original scope of work. Second, supplements may be requested to realize broader impacts, particularly for the goal of broadening participation in science that could not be anticipated when the proposal was submitted. The HEGS program welcomes supplemental funding requests for Research Opportunity Awards (ROA) to support meritorious research activities by faculty members at predominantly undergraduate institutions. The program also welcomes requests to support student involvement in research, including Research Experiences for Undergraduates (REU). The students do not need to be enrolled at the principal investigator's institution, and requests that broaden participation in science are particularly encouraged. For all supplemental funding inquiries, principal investigators should consult with HEGS program officers before submitting a formal request.

Link to Additional Information: <https://new.nsf.gov/funding/opportunities/hegs-human-environment-geographical-sciences-program/nsf25-507/solicitation>

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

Application Deadline: February 5, 2025

Award Information: budgets are not limited but need to reflect the actual needs of the proposed scientific research project and DEIA activities

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

Program Considerations

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

Because this award is intended to support individuals with no current NIH research project grant funding support at the time of the award (for example, individuals who may have faced career setbacks or delays), PDs/PIs who work with their

organizations to apply to the ReWARD program are not expected to have extensive publications and preliminary data. However, investigators should have robust research aims and strategies that are rigorous, feasible, and likely to push forward the boundaries of scientific discovery. DEIA activities that focus solely on research mentoring or training within the PD/PI's normal duties, are not likely to rise to the level of significant, sustained, and/or impactful DEIA contributions supported within the goals of this program.

Specific Areas of Research Interest

- **NHGRI** supports resources, approaches, and technologies that accelerate genomic research focused on the structure and biology of genomes; the genomics of disease; the implementation and effectiveness of genomic medicine; computational genomics and data science; the impact of genomic technology, advances, and implementation on health disparities and health equity; and ethical, legal, and social issues related to genomic advances.
- **NIAMS** will support applications that address research into the causes, treatments, and prevention of arthritis and musculoskeletal and skin diseases.
- **NIBIB** interests include the development and integration of advanced bioengineering, sensing, imaging, and computational technologies for the improvement of human health and medical care.
- **NICHD** invites applications that will address questions relevant to the NICHD mission and align with the NICHD Strategic Plan. NICHD supports research and training to understand human development, improve reproductive health, enhance the lives of children and adolescents, and optimize abilities for all.
- **NIDA** supports innovative research addressing critical issues of neuroscience, genetics, behavior, prevention, treatment, epidemiology, etiology, health services, HIV/AIDS, and co-occurring opportunistic infections (e.g., viral hepatitis C, tuberculosis, sexually transmitted infections) associated consequences in substance-using populations, medication development, or other research areas relevant to drug abuse.
- **NIDCD** supports biomedical research, behavioral research, and research training in the normal and disordered processes of hearing, balance, taste, smell, voice, speech, and language.
- **NIDCR** supports research and research training to advance fundamental knowledge about dental, oral, and craniofacial (DOC) health and disease, and to translate these findings into prevention, early detection, and treatment strategies that improve overall health for all individuals and communities across the lifespan.
- **NIGMS** supports basic research that increases our understanding of biological processes and lays the foundation for advances in disease diagnosis, treatment, and prevention.
- **NIH BRAIN Initiative** is aimed at revolutionizing our understanding of the human brain, by accelerating the development and application of innovative technologies. Grant applications that fall into one or more of the seven high-priority research areas, including neuroethics, will be considered for funding.
- **NIMH** supports research on topics that include but are not limited to basic neuroscience and behavioral science; translational application of brain and behavior relationships in healthy and diseased states; and preventive, treatment and services interventions.
- **NIMHD** leads scientific research to improve minority health and reduce health disparities. NIMHD supports the study of many aspects of minority health and health disparities in humans from biological and population sciences to behavioral, and translational research, as well as research on health care services, health policy, health systems and workforce development.
- **NINDS** will support applications that address or seek fundamental knowledge about the brain and nervous system by supporting and conducting research on the healthy and diseased brain, spinal cord, and peripheral nerves and to use that knowledge to reduce the burden of neurological disease.
- **NINR** supports research aligned with our mission and strategic priorities, conducted by scientists from any discipline.
- **NLM** supports research that incorporates innovative biomedical informatics and data science approaches that harness the digital healthcare ecosystem and has the potential to reduce health disparities while improving access to care, continuity of care, and/or health outcomes.

Link to Additional Information: <https://grants.nih.gov/grants/guide/pa-files/PAR-25-117.html>

Forecasted Opportunities

1. Spotlight on Humanities in Higher Education, NEH

Projects must enhance the teaching and study of the humanities at one or more colleges and universities that enroll fewer than 10,000 undergraduate students and that belong to at least one of the following categories: community colleges, minority-serving institutions, rural colleges and universities, or colleges and universities with more than 40% of students receiving Pell grants.

Link to Additional Information: <https://www.grants.gov/search-results-detail/356739>

Proposals Accepted Anytime

1. Division of Environmental Biology, NSF
<https://new.nsf.gov/funding/opportunities/division-environmental-biology-deb/nsf24-543/solicitation>
2. Computational and Data-Enabled Science and Engineering in Mathematical and Statistical Sciences, NSF
<https://beta.nsf.gov/funding/opportunities/computational-and-data-enabled-science-and-engineering-mathematical-and>
3. Condensed Matter and Materials Theory (CMMT), NSF
https://www.nsf.gov/pubs/2022/nsf22610/nsf22610.htm#pgm_desc_txt
4. Division of Materials Research: Topical Materials Research Programs (DMR: TMRP), NSF
<https://www.nsf.gov/pubs/2022/nsf22609/nsf22609.htm>
5. Research in the Formation of Engineers, NSF
<https://beta.nsf.gov/funding/opportunities/research-formation-engineers-rfe>
6. Computer and Information Science and Engineering (CISE): Core Programs, NSF – Small Projects
<https://www.nsf.gov/pubs/2022/nsf22631/nsf22631.htm>
7. Manufacturing Systems Integration (MSI), NSF
<https://beta.nsf.gov/funding/opportunities/manufacturing-systems-integration-msi>
8. Cybersecurity Innovation for Cyberinfrastructure (CICI), NSF
<https://www.nsf.gov/pubs/2023/nsf23532/nsf23532.htm>
9. Division of Molecular and Cellular Biosciences Core Programs (MCB), NSF
<https://new.nsf.gov/funding/opportunities/division-molecular-cellular-biosciences-core/nsf24-539/solicitation>
10. Division of Integrative Organismal Systems Core Programs, NSF
<https://www.nsf.gov/pubs/2023/nsf23547/nsf23547.htm>
11. Electronics, Photonics and Magnetic Devices (EPMD), NSF
<https://beta.nsf.gov/funding/opportunities/electronics-photonics-magnetic-devices-epmd-0>
12. Plant Genome Research Program (PGRP), NSF
<https://www.nsf.gov/pubs/2023/nsf23559/nsf23559.htm#elig>
13. Communications, Circuits, and Sensing-Systems (CCSS), NSF
<https://beta.nsf.gov/funding/opportunities/communications-circuits-sensing-systems-ccss-0>

14. Fluid Dynamics, NSF
<https://beta.nsf.gov/funding/opportunities/fluid-dynamics-2>
15. Biophotonics, NSF
<https://beta.nsf.gov/funding/opportunities/biophotonics-2>
16. Environmental Sustainability, NSF
<https://beta.nsf.gov/funding/opportunities/environmental-sustainability-2>
17. Particulate and Multiphase Processes, NSF
<https://beta.nsf.gov/funding/opportunities/particulate-multiphase-processes-2>
18. Interfacial Engineering, NSF
<https://beta.nsf.gov/funding/opportunities/interfacial-engineering-0>
19. Nanoscale Interactions, NSF
<https://beta.nsf.gov/funding/opportunities/nanoscale-interactions-0>
20. Combustion and Fire Systems (CFS), NSF
<https://new.nsf.gov/funding/opportunities/combustion-fire-systems-cfs>
21. Infrastructure Innovation for Biological Research (Innovation), NSF
<https://www.nsf.gov/pubs/2023/nsf23578/nsf23578.htm>
22. Infrastructure Capacity for Biological Research (Capacity), NSF
<https://www.nsf.gov/pubs/2023/nsf23580/nsf23580.htm>
23. Energy, Power, Control, and Networks (EPCN), NSF
<https://new.nsf.gov/funding/opportunities/energy-power-control-networks-epcn-0>
24. Engineering of Biomedical Systems, NSF
<https://new.nsf.gov/funding/opportunities/engineering-biomedical-systems-0>
25. Catalysis, NSF
<https://new.nsf.gov/funding/opportunities/catalysis-2>
26. Process Systems, Reaction Engineering, and Molecular Thermodynamics, NSF
<https://new.nsf.gov/funding/opportunities/process-systems-reaction-engineering-molecular-2>
27. Disability and Rehabilitation Engineering (DARE), NSF
<https://new.nsf.gov/funding/opportunities/disability-rehabilitation-engineering-dare-2>
28. Cellular and Biochemical Engineering, NSF
<https://new.nsf.gov/funding/opportunities/cellular-biochemical-engineering-0>
29. Facility and Instrumentation Request Process (FIRP), NSF
<https://www.nsf.gov/pubs/2023/nsf23602/nsf23602.htm>
30. Research Infrastructure in the Social and Behavioral Sciences (RISBS), NSF
<https://new.nsf.gov/funding/opportunities/research-infrastructure-social-behavioral-sciences>

31. Secure and Trustworthy Cyberspace (SaTC), NSF
<https://www.nsf.gov/pubs/2024/nsf24504/nsf24504.htm>
32. Mind, Machine and Motor Nexus (M3X), NSF
<https://new.nsf.gov/funding/opportunities/mind-machine-motor-nexus-m3x>
33. Cyberinfrastructure for Public Access and Open Science, NSF
<https://new.nsf.gov/funding/opportunities/cyberinfrastructure-public-access-open-science-ci>
34. Multilateral Partnerships Leveraging Excellence (MultiPLEx), NSF
<https://new.nsf.gov/funding/opportunities/multiplex-multilateral-partnerships-leveraging-excellence>

Announcing Previous Important Funding Opportunities

1. Molecular Foundations for Sustainability: Sustainable Polymers Enabled by Emerging Data Analytics, NSF
Deadline: December 5, 2024 (LOI); January 16, 2024 (FP)
<https://new.nsf.gov/funding/opportunities/molecular-foundations-sustainability-sustainable/nsf24-567/solicitation>
2. Sustaining Cultural Heritage Collections, NEH
Deadline: December 5, 2024 (Optional Draft); January 10, 2025 (FP)
<https://www.neh.gov/grants/preservation/sustaining-cultural-heritage-collections>
3. Support for Conferences and Scientific Meetings (Parent R13 Clinical Trial Not Allowed), NIH
Deadline: December 12, 2024
<https://grants.nih.gov/grants/guide/pa-files/PA-25-080.html>
4. Molecular Foundations for Biotechnology, NSF
Deadline: December 16, 2024
<https://new.nsf.gov/funding/opportunities/mfb-molecular-foundations-biotechnology/nsf24-607/solicitation>
5. NICHD Resource Program Grants in Bioinformatics (P41 Clinical Trial Not Allowed), NIH
Deadline: December 23, 2024 (LOI); January 25, 2025 (FP)
<https://grants.nih.gov/grants/guide/pa-files/PAR-24-301.html>
6. Behavioral & Integrative Treatment Development Program (R01 Clinical Trial Optional), NIH
Deadline: January 5, 2025 (LOI); February 5, 2025 (FP)
<https://grants.nih.gov/grants/guide/pa-files/PAR-24-299.html>
7. Department of Army Energetics Basic Research Center, Combat Capabilities Development Command (DEVCOM)/Army Research Laboratory (ARL)/U.S. Army Research Office (ARO)
Deadline: until January 6, 2025 (Whitepapers); April 7, 2025 (FP)
<https://www.grants.gov/search-results-detail/356583>
8. Advancing Informal STEM Learning (AISL), NSF
Deadline: January 8, 2025
<https://new.nsf.gov/funding/opportunities/advancing-informal-stem-learning-aisl/nsf24-601/solicitation>
9. Preservation Assistance Grants for Smaller Institutions, NEH
Deadline: January 9, 2025
<https://www.grants.gov/search-results-detail/351936>

10. Pathways to Enable Open-Source Ecosystems (POSE), NSF
Deadline: January 14, 2025
https://new.nsf.gov/funding/opportunities/pose-pathways-enable-open-source-ecosystems/nsf24-606/solicitation#pgm_desc_txt
11. Safety, Security, and Privacy of Open-Source Ecosystems (Safe-OSE), NSF
Deadline: January 14, 2025 (Preliminary Proposal): April 22, 2025 (FP)
<https://new.nsf.gov/funding/opportunities/safe-ose-safety-security-privacy-open-source-ecosystems/nsf24-608/solicitation>
12. Translation Project Fellowships, NEA
Deadline: January 16, 2025
<https://www.arts.gov/grants/translation-project-fellowships>
13. Addressing Systems Challenges through Engineering Teams, NSF
Deadline: January 22, 2025
<https://new.nsf.gov/funding/opportunities/ascent-addressing-systems-challenges-through-engineering-teams>
14. Ethical and Responsible Research (ER2), NSF
Deadline: January 23, 2025
<https://new.nsf.gov/funding/opportunities/er2-ethical-responsible-research/nsf24-604/solicitation>
15. Focus on Recruiting Emerging Climate and Adaptation Scientists and Transformers, NSF
Deadline: January 29, 2025 (Track 1); April 30, 2025 (Track 2)
<https://new.nsf.gov/funding/opportunities/focus-recruiting-emerging-climate-adaptation/nsf24-558/solicitation>
16. Research Experiences and/or Mentoring Networks through Research Education to Enhance Clinician-Scientists' Participation in NIDCD's Research (R25 Clinical Trial Not Allowed), NIH
Deadline: January 29, 2025
<https://grants.nih.gov/grants/guide/pa-files/PAR-25-020.html>
17. Building Synthetic Microbial Communities for Biology, Mitigating Climate Change, Sustainability and Biotechnology (Synthetic Communities), NSF
Deadline: February 3, 2025
<https://new.nsf.gov/funding/opportunities/synthetic-communities-building-synthetic-microbial-communities-biology-mitigating/nsf25-501/solicitation>
18. Quantum Leap Challenge Institutes, NSF
Deadline: February 7, 2025 (LOI-required); March 7, 2025 (Preliminary Proposal-required): September 17, 2025 (FP – by invitation)
<https://new.nsf.gov/funding/opportunities/quantum-leap-challenge-institutes-qlci/nsf24-599/solicitation>
19. NIDCR Mentored Career Development Award to Promote Broad Participation in Research (K01 Independent Clinical Trial Not Allowed), NIH
Deadline: February 12, 2025
<https://grants.nih.gov/grants/guide/pa-files/PAR-25-022.html>
20. Summer Research Education Experience Program (R25 Clinical Trial Not Allowed), NIH
Deadline: February 15, 2025 (LOI); March 18, 2025 (FP)
<https://grants.nih.gov/grants/guide/pa-files/PAR-24-204.html>

21. Imaging - Science Track Award for Research Transition (I/START) (R03 Clinical Trial Optional), NIH
Deadline: February 16, 2025
<https://grants.nih.gov/grants/guide/pa-files/PAR-24-297.html>
22. Discovery Research PreK-12 Program Resource Center on Transformative Education Research and Translation (DRK-12 RC), NSF
Deadline: February 28, 2025
https://new.nsf.gov/funding/opportunities/drk-12-rc-discovery-research-prek-12-program-resource-center/nsf24-602/solicitation?WT_mc_id=USNSF_25&WT_mc_ev=click
23. Science, Technology, Engineering and Mathematics (STEM), Office of Naval Research
Deadline: April 4, 2025
<https://www.nre.navy.mil/work-with-us/funding-opportunities/onr-science-technology-engineering-and-mathematics-stem-program>
24. Cyber-Physical Systems (CPS), NSF
Submission Window Date(s): June 01, 2024 - May 31, 2025 (Small & Medium)
<https://new.nsf.gov/funding/opportunities/cyber-physical-systems-cps/nsf24-581/solicitation>
25. Research and Development (RAD) Directed Energy (RD) University Assistance Instruments, Dept. of the Air Force, Air Force Research Lab
Deadline: until July 18, 2029 (Mandatory LOI); by invitation only (FP)
<https://www.grants.gov/search-results-detail/355499>
26. Computer and Information Science and Engineering (CISE): Core Programs, Large Projects, NSF
Submission Window Date(s): September 15, 2025 - September 29, 2025
<https://new.nsf.gov/funding/opportunities/computer-information-science-engineering-core-0/nsf24-572/solicitation#elig>



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