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

SELECTED FUNDING OPPORTUNITIES

This is a selection of identified funding opportunities for the period ending 9/7/2022 and is in no way all-inclusive of funding opportunities available. Further information has been shared with External Resource Coordinators and Research Coordinators at each UPR campus by e-mail or MS Teams.

INDEX

Page

1. Spotlight on Humanities in Higher Education, NEH

Application Deadline:

- **Optional Draft: September 28, 2022**
- **Full Proposal: November 2, 2022**

Award Amounts:

- **Exploration: up to $25,000 for up to one year**
- **Development: up to $60,000 for up to two years**

The Spotlight on Humanities in Higher Education program supports the exploration and development of small projects that would benefit underserved populations through the teaching and study of the humanities. Eligible applicants include small- to medium-size two- and four-year institutions of higher education and nonprofit organizations whose work advances the humanities at these institutions and among their faculty and students. NEH especially welcomes applications from Native American and Indigenous institutions, Historically Black Colleges and Universities, Hispanic-Serving Institutions, Asian American and Native American Pacific Islander-Serving Institutions, Tribal Colleges and Universities, minority-serving institutions, community colleges, rural colleges and universities, schools that have a majority-minority undergraduate enrollment, and those that serve significant numbers of first-generation and nontraditional students. The program supports activities such as curricular or program development, expert consultations, speakers' series, student research, creation of teaching resources, and community engagement. Projects may benefit students, faculty, the institution, or organization, and/or the community.

Allowable activities:
The Spotlight on Humanities in Higher Education program supports exploration and development activities such as:

- Curriculum and program creation
    - engaging outside consultants to assess humanities needs and create strategies to meet them
    - creating student internship programs or student bridge programs
    - creating a course or set of courses (for example, general education, honors, or capstone courses)
    - creating teaching or professional development materials (course modules, readers, primary document collections, digital collections, etc.)
    - creating materials and practices for distance learning
- Student enrichment
    - supporting faculty to guide student research
    - exploring opportunities for hands-on, place-based, or experiential learning projects
    - exploring, developing, and/or implementing a campus-wide or community program such as a "common read"
    - developing humanities-based student mentorship programs
- Professional development
    - creating shared reading programs focused on humanities teaching or curricula
    - organizing guest speakers' seminars or hosting guest speakers in the humanities for faculty
- Collaboration
    - introducing faculty and/or students from partner institutions to humanities teaching practices at the host institution or organization
    - working with academic departments, institutions, or nonprofit organizations to create shared resources
    - researching, organizing, and developing convenings, such as symposia and conferences
- Community engagement
    - partnering with museums, libraries, or other nonprofit organizations to enhance the teaching and study of the humanities
    - producing humanities programming, such as public lectures or symposia, for students and community members
- Workforce preparation
    - aligning humanities teaching with students' career or professional development needs
    - creating humanities-related experiential learning opportunities

Funding levels:
You may request support at one of two levels: Exploration or Development. You should apply for the level appropriate to your project. You are not required to receive an Exploration award prior to applying at the Development level.

- **Exploration** - They support administrators, faculty, community members, and/or humanities nonprofit organizations in planning for a project that would significantly strengthen the teaching of the humanities at colleges or universities. The result of an Exploration award will be a project ready to enter the development stage.

- **Development** - They support divisions, departments, programs, and/or humanities nonprofit organizations in advancing a single, well-defined project (or one stage of a larger project) that would significantly enrich humanities teaching and learning at colleges and universities.

Link to Additional Information: https://www.neh.gov/program/spotlight-humanities-higher-education

2. Inspire! Grants for Small Museums, IMLS

Application Deadline: November 15, 2022
Award Budget: $5,000–$50,000 for up to two years

Inspire! Grants for Small Museums is a special initiative of the Museums for America grant program. It is designed to support small museums of all disciplines in project-based efforts to serve the public through exhibitions, educational/interpretive programs, digital learning resources, policy development and institutional planning, technology enhancements, professional development, community outreach, audience development, and/or collections management, curation, care, and conservation. Projects are expected to focus on a key component of the institution's strategic plan, reflect a thorough understanding of current practice and knowledge about the subject matter, and generate measurable results that tie directly to the need or challenge addressed.

IMLS invites applicants to consider whether their museum is a good fit for this program and to describe structural or organizational issues that restrict the abilities and capacity of their museum in their Organizational Profile (see Section D2c). Applicants should also address attributes that describe the size of their organization, including but not limited to:

- number of staff members and volunteers
- estimate of total person-hours worked per week
- operating budget and sources of revenue
- number and types of objects in the collection
- size of facility and property
- types and numbers of audiences served
- size relative to other organizations of the same discipline, or within the same geographic region

Reflecting IMLS's agency-level goals, Inspire! Grants for Small Museums has three program goals with three objectives associated with each goal. Each applicant should align their proposed project with one of these three goals and one or more of the associated objectives.

- Goal 1, Lifelong Learning: Empower people of all ages and backgrounds through experiential and cross-disciplinary learning and discovery.
    - Objective 1.1: Support public programs, adult programs, family programs, and early childhood programs.
    - Objective 1.2: Support exhibitions, interpretation, and digital media.
    - Objective 1.3: Support in-school and out-of-school programs.

- Goal 2, Institutional Capacity: Build the capacity of small museums to serve their communities.
    - Objective 2.1: Support policy development, institutional planning, and technology enhancements.
    - Objective 2.2: Support training and professional development for museum staff and volunteers.
    - Objective 2.3: Support evaluation, audience development, and community outreach.

- Goal 3, Collections Stewardship and Access: Advance the management and care of collections and their associated documentation.
    - Objective 3.1: Support cataloging, inventorying, and registration; collections information management; and collections planning.
    - Objective 3.2: Support conservation and environmental improvement and/or rehousing; conservation surveys; and conservation treatment.
    - Objective 3.3: Support database management, digital asset management, and digitization.

Link to Additional Information: https://www.imls.gov/grants/available/inspire-grants-small-museums

3. From Learning to Leading: Cultivating the Next Generation of Diverse Food and Agriculture Professionals, USDA/NIFA

Application Due Dates:

- **Notice of Intent (Optional): September 16, 2022**
- **Full Proposal: October 25, 2022**

Award Budget: minimum award of $500,000 for 60 months

The purpose is to build and sustain the next generation of the food, agriculture, natural resources, and human sciences (FANH) workforce including the future USDA workforce primarily through providing student scholarship support, meaningful paid internships, fellowships, and job opportunity matching, and facilitating opportunities to learn the processes and pathways leading to training and employment in the federal sector. Projects must be student-centered and directly benefit student learning and success.

Program Description:
The NEXTGEN Program is focused on supporting and preparing students for careers in the food, agriculture, natural resources, and human sciences (See Appendix III for definitions) across research, education, and extension. The NEXTGEN program places special emphasis on federal government sector employment in order to close the gaps in diversity and also between supply and demand of professionals in these fields. Through meaningful, experiential learning experiences, scholarships, and student engagement activities, the NEXTGEN Program will support eligible institutions listed in Section 1006(b)(4) (A-E) of the Act to prepare students as well as other communities of learners to join the agricultural workforce as skilled, professional and/or scientific members of the sector.

The primary areas of focus include:

1. **Paid experiential learning opportunities** (i.e., internships, fellowships, career development activities, apprenticeships, and experiential learning opportunities, such as mentoring, shadowing, hands-on-learning, interviews, peer-to-peer engagement) in food, agriculture, natural resource, and human sciences across research, education, and extension and at USDA for undergraduate and graduate students and other communities of learners.
2. **Scholarships** to support the recruitment, retention, and graduation of students completing a degree, certification, and/or credential in food, agriculture, natural resource, and human sciences.
3. **Non-formal education activities** that cultivate interest in and exposure to careers across food, agriculture, natural resources, human sciences, and allied disciplines among youth and other communities of learners on non-traditional academic or career paths, such as return-to-work program participants, older adults seeking employment, and formerly incarcerated individuals. Examples of activities include hosting a Jr. Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS}) Chapter, sponsoring field trips, K-12 school gardens, extension demonstrations, service projects, or positive youth development activities, such as 4-H.
4. **Innovative recruitment, retention, and initiatives** to attract students to majors and career paths in food, agriculture, natural resources, and human sciences and improve understanding of the processes and pathways leading to training opportunities and employment in the federal sector, particularly at USDA.

The NEXTGEN Program encourages implementing innovative and culturally responsive strategies and partnerships to inspire youth, adult learners, and other targeted audiences to pursue career paths in food, agriculture, natural resources and

human sciences (FANH) (See Appendix III for definition). Based on a wide range of diverse stakeholder engagement and feedback, as well as lessons learned from previous efforts in and out of USDA, expanding partnerships and investments with not-for-profit institutions of higher education and organizations serving and working with underserved communities will result in cooperative and sustained development of the current and future workforce.

The Next Gen Program seeks to support projects that:

1. provide resources and support to students and other communities of learners through the eligible institutions pursuing academic and career paths in food, agriculture, natural resources, and human sciences (FANH) leading to increased graduation and credential completion rates and participation rates in internships, fellowships, career development opportunities, and experiential learning opportunities
2. develop directed and meaningful interactions between research, education, and extension/outreach that will directly impact the recruitment and retention of students in FANH and USDA training and employment opportunities
3. build awareness of the range of agriculture-related career opportunities in FANH and at USDA, as well as understanding of processes and pathways to Federal employment
4. develop and facilitate meaningful domestic and/or international experiential learning opportunities which cultivate the acquisition of technical, leadership, and employability skills required to enter the FANH and USDA workforce
5. create opportunities for skills-based training and certifications for high-demand occupations in FANH for audiences outside of the college environment including apprenticeship programs
6. extend knowledge on the wide range of career opportunities across the diverse sectors of food, agriculture, natural resources, and human sciences and at USDA by training advisors on those opportunities and connecting participants to USDA personnel and internship and scholarship opportunities through career development activities
7. attract and engage K-12 youth and other communities of learners that are underrepresented in FANH through non-formal education opportunities, including positive youth development activities, such as 4-H, AmeriCorps, and the Youth Conversation Corps
8. increase awareness and understanding of diverse food and agricultural systems, and the rural economy both from local, regional, and global perspectives including indigenous traditional ecological knowledge
9. build and sustain partnerships among organizations, that have a vested public interest in developing a diverse workforce in FANH
10. develop or adapt innovative teaching, training, and advising practices, curricula, learning materials, recruitment, mentoring, retention, or branding strategies to attract students from underserved communities to majors and career paths in FANH
11. increase knowledge and learning about effective student pathways and implementation of internship experiences, processes, and programs to inform USDA's commitment to attracting, hiring, and retaining an engaged, motivated, and diverse workforce.

Project Types:

1. **Student Scholarship Projects (SSP)** - support the eligible institutions to develop scholarship programs that will recruit, retain, expand career awareness across the diverse sectors of food, agriculture, natural resources, and human sciences, including allied disciplines, and increase graduation rates of students and the participation rates in internship programs and experiential learning opportunities by (a) providing student financial support (full tuition, fees, books and other necessary materials or supplies, room and board, and other participant support costs, such as transportation, off-campus housing allowances, child care, etc.) as well as mentoring, career counseling, coaching for internship identification, preparation, and application submission, and other retention support services each year for up to 4 years; or (b) providing special or focused scholarships to increase student recruitment, retention, and graduation in relevant academic majors or in certificate and credential programs. Scholarship programs should include plans to accommodate scholarship recipients who find it necessary to interrupt their program of study because of health, personal, or other reasonable nonacademic and non-disciplinary cause(s).

2. **Experiential Learning Projects (ELP)** - provide support for paid domestic or international experiential learning opportunities for students to promote a better awareness and understanding of the wide array of career opportunities across the agricultural enterprise including those at USDA, while developing their professional skills and training. ELP projects may include but are not limited to: (a) research, education, and extension projects focused on relevant topics at their own institutions OR institutions or organizations other than their own; (b) apprenticeships, internships, fellowships, or similar participatory learning experiences, practicums for Doctor of Veterinary Medicine (DVM) students, or externships away from their own institutions; learning experiences integrating USDA, such as coaching for the application process for USDA internship and career opportunities, projects, field trips or visits to USDA locations, or coordinating educational seminars with USDA personnel; or (c) other relevant experiential learning activities or approaches. "On-the-ground," shadowing, or research projects are encouraged to develop interactions between research, academic, extension/outreach faculty and staff that enable students to understand basic and applied research translation and its impact in the lives of all Americans.

3. **Outreach and Engagement Projects (OEP)** - provide support to institutions to:
    a. Develop educational content, activities, media and digital campaigns, marketing materials, and opportunity matching services to enhance youth's understanding of the myriad career opportunities which exist across FANH and USDA
    b. involve youth and other communities of learners in the design, execution, and evaluation of meaningful activities that connect to FANH and USDA
    c. engage students as ambassadors for food, agriculture, natural resources, human sciences, and allied disciplines with youth and other community of learners, as well as other relevant activities
    d. build awareness of the range of agriculture-related career opportunities in FANH and at USDA, as well as understanding of processes and pathways to Federal employment.

ELP and SSP must incorporate both career development and leadership development components required for student participants. Career development activities may include mentoring, shadowing, and career exploration and student services, including tutoring, career counseling, academic advising, opportunity matching services and technologies, and other student services that would positively impact retention and graduation rates. Leadership development activities may include developing practical applications to increase understanding of leadership roles, including critical thinking, problem solving, and communication skills; ethics and professionalism; interpersonal skills; working in teams; connecting the academic classroom experience with daily leadership roles and organizational activities; providing opportunities for students to participate in mentoring and shadowing; and organizing leadership institutes, workshops, or trainings.

Grant Types:
Applicants must select from the following grant types:

1. **Tier 1:** supports multi-State/Tribal/Territory projects that include a partnership between the lead applicant and at least two other eligible institutions across a minimum of two states, territories, and/or tribal nations. Tier 1 projects must integrate the three project types and are expected to develop and/or replicate best practices, including student recruitment and support/retention practices, across partner institutions. All partners must have a significant role in the collaboration and each institution's budget needs to be appropriate to support its activities. These grants will be funded at up to $20 Million for a period of five years.

2. **Tier 2:** supports multi-institution projects to include a partnership between the lead applicant and at least one other eligible institution within or outside their home State. Tier 2 projects must integrate at least two of the three project types and are expected to develop and/or replicate best practices across partner institutions. All partners must have a significant role in the collaboration and each institution's budget needs to be appropriate to support its activities. These grants will be funded at up to $10 Million for a period of five years.

3. **Tier 3:** supports single-institution projects that integrate at least two of the three project types and will be funded at up to $5 Million for a period of five years. Tier 3 applicants are welcome to partner with other institutions.

Link to Additional Information: https://www.nifa.usda.gov/grants/funding-opportunities/learning-leading-cultivating-next-generation-diverse-food-agriculture

4. Research on Monitoring Child Maltreatment in Youth Serving Organizations, NIJ

Application Deadline:

- **Grants.gov Deadline: October 24, 2022**
- **JustGrants Deadline: November 8, 2022**

Award Budget: $1,500,000 for 60 months

NIJ seeks proposals for funding from accredited research universities for a feasibility study on the establishment of a federal system to count and track cases of sexual abuse and other forms of maltreatment in youth serving organizations, which may include but is not limited to substantiated cases. This study will assist DOJ to determine the viability of creating a system to identify the gaps that currently exist in law enforcement and child welfare coordination strategies to better address the challenge of identifying child maltreatment in organizations that serve youth.

NIJ seeks proposals for a two-part feasibility study on the establishment of a federal system to count and track cases of sexual and other forms of child maltreatment in YSOs. The first part of the study should include:

- Engagement from the outset of the study with independent, external experts, practitioners, and other stakeholders (e.g., those with lived experiences) to inform, review, and provide feedback on the feasibility study plan and the resulting recommendations and technical considerations. This might include, but is not limited to, expert panel convenings, interviews, and focus groups.
- A comprehensive review and assessment of available sources of information collected by federal, state, and local government agencies that have a role in responding to child sexual abuse and other forms of maltreatment, including an assessment of inclusion criteria, definitions, and data elements. An assessment of the legal framework (i.e., federal regulations and state laws) for reporting child sexual abuse and other forms of maltreatment.
- An assessment of approaches to identify cases missed by the current government reporting systems and to track system response, including systems utilized by YSOs to track and report incidents.
- Recommendations on options for the establishment of a federal system to routinely collect information on cases and system response, including utilizing existing structures.
- Detailed technical considerations, including anticipated challenges and mitigation strategies for each of the recommended options (e.g., establishing definitions, determining data elements, securing participation and timely submission of data, ensuring confidentiality, and addressing data system issues).
- Estimations of cost associated with recommended options.

The second part of the study should include:

- Design and pilot testing of one or more recommended options.

Definitions and Scope:
Youth-serving organizations are diverse and can include out-of-home placements schools, health care programs, community youth sports programs, tutoring, and after-school programs. No universal legal definition of YSOs exist. For the purposes of this solicitation, youth-serving organizations broadly refers to organizations that provide services and support young people, typically under the age of 18, either paid or free-of-charge.

Child maltreatment is defined by the CDC as including all types of abuse and neglect of a child under the age of 18 by a parent, caregiver, or another person in a custodial role (such as a religious leader, a coach, a teacher) that results in harm, the potential for harm, or threat of harm to a child. There are four common types of maltreatment: physical abuse, sexual abuse, emotional abuse, and neglect. For the purposes of this solicitation, childhood maltreatment is not limited to incidents that constitute criminal violations. For instance, one recent study estimated that 63.2% of youth who experienced YSO maltreatment experienced verbal abuse which may or may not constitute a criminal violation depending upon jurisdiction.

Applicants must provide a plan for addressing challenges in variations in definitions and laws surrounding YSOs and child maltreatment.

Goals and Objectives:
Goals - to assist DOJ in determining the viability of creating a system to identify the gaps that currently exist in law enforcement and child welfare coordination strategies to better address the challenge of identifying child maltreatment in organizations that serve youth.

Objectives - to conduct research on the feasibility of establishing a federal system to count and track substantiated cases of sexual abuse and other forms of maltreatment in youth serving organizations.

Link to Additional Information: https://www.grants.gov/web/grants/view-opportunity.html?oppId=343384

5. Science and Technology Studies (STS), NSF

Application Due Date: February 02, 2023
Anticipated Funding Amount:

- **Standard and Collaborative Research Grants: up to $750,000 including indirect costs for two to three years**
- **Scholars Awards: up to $350,000 for one year**
- **Research Community Development Grants: in the range of $75,000-$100,000 per year of the project for up to 36 months**
- **Conference Grants: under $50,000**
- **Doctoral Dissertation Research Improvement Grants: up to $25,000**
- **Faculty Early Career Development (CAREER): minimum amount of $400,000 for five years**
- **Rapid Response Research (RAPID): up to $200,000 for one year**
- **Early-concept Grants for Exploratory Research (EAGER): up to $300,000 for two years**
- **Research Advanced by Interdisciplinary Science and Engineering (RAISE): up to $1 million for five years**

STS research seeks to understand how scientific knowledge is produced and sanctioned, and how it is challenged and changes. It examines the theoretical foundations of science, brings to light underlying presuppositions and alternative interpretations, and assesses the reliability of research methods. It investigates how materials, devices and techniques are designed and developed; how and by whom they are diffused, used, adapted and rejected; how they are affected by social and cultural environments; and how they influence quality of life, culture and society. It also considers how socio-cultural values are embedded in science and technology, and how issues of governance and equity evolve with the development and use of scientific knowledge and technological artifacts. In addition, it explores relationships between STEM and fundamental social categories including race and gender, poverty and development, trust and credibility, participation and democracy, health and pathology, risk and uncertainty, globalization, and environmental concerns.

Traditional STS Focus Areas:
The program encourages research that furthers STS as a multidisciplinary and interdisciplinary field, including, but by no means limited to the following:

1. Research on the social organization of scientific work and how this shapes the production of knowledge and its intellectual and social impacts.
2. Research on the historical, conceptual, and methodological foundations of any of the natural, social or engineering sciences including their foundations, origins or place in modern society.
3. Mixed methods approaches and other approaches that integrate multiple STS perspectives with each other or with innovative approaches from the arts or humanities.
4. Interdisciplinary projects on topics of broad societal concern that engage in integrative, collaborative research involving at least one STS expert and at least one expert in some other STEM field, with prospective outcomes that serve to advance both fields.
5. STS projects that contribute to NSF's research-focused Big Ideas, or that contribute to other pertinent initiatives such as Ethical and Responsible Research (ER2), Science of Broadening Participation and ADVANCE.

New Areas of Emphasis for STS:
The STS program strongly encourages research that addresses complex socio-technical and techno-scientific problems from multiple perspectives that capture the different social facets of the problem. These social facets may include ethics, policy, governance, justice, equity, diversity, inclusion, race, gender, trust, reliability, risk and uncertainty, sustainability, user-centeredness, and globalization. The goal is to bring different disciplinary and interdisciplinary perspectives to the problem and thereby make use of a variety of theoretical frameworks and methodological approaches. Some examples of questions that address such problems may include, but are by no means limited to, the following:

1. How can emerging technologies such as machine learning systems, gene drives or quantum computers be developed and implemented so that they can benefit everyone? How are people interacting with these emerging technologies and how will they affect culture, society and norms?
2. What are the best approaches for maintaining and developing the built environment while respecting the natural environment as well as local cultures and values? What factors need to be considered to ensure that technologies work well within social and cultural contexts?
3. How can major technological shifts in energy, algorithm usage, transportation or communication be accomplished in ways that are transparent and consistent with societal values, engage diverse perspectives in all phases of development and benefit broad sectors of society?
4. How can justice, equity, inclusion, and diversity (JEDI) impact STEM and change the practice and quality of STEM research?

The STS Program supports research into ethical issues that may arise in close connection with developments in STEM research or on the ways in which STEM knowledge may impact our understanding of ethics itself. Also, the STS program supports research on how scientific knowledge is produced, reproduced and maintained within a social context, and how science and its societal context mutually influence each other.

Grant types supported by STS:
STS program supports a variety of grant types, listed below with associated guidelines. Funding caps on the grant types supported by the STS program are expressed in terms of the requested amount, which is the amount listed on the cover page of the proposal.

- The program mainly supports Standard Research Grants, Grants for Collaborative Research, Scholars Awards, Research Community Development Grants, Conference Grants and Doctoral Dissertation Research Improvement Grants.
- In addition, the program may support other NSF-wide grant mechanisms that are detailed in NSF's PAPPG, including Rapid Response Research (RAPID), Early-concept Grants for Exploratory Research (EAGER) and Research Advanced by Interdisciplinary Science and Engineering (RAISE).

Link to Additional Information: https://www.nsf.gov/pubs/2022/nsf22629/nsf22629.htm

6. The Rural eConnectivity Program, USDA, Rural Utilities Service

Application Due Date: November 2, 2022
Anticipated Funding Amount: up to $25,000,000

The Rural eConnectivity Program (ReConnect) Program provides loans, grants, and loan/grant combinations to facilitate broadband deployment in rural areas. In facilitating the expansion of broadband services and infrastructure, the program will fuel long-term economic development and opportunities in rural America.

The Agency encourages applicants to consider projects that will advance the following key priorities:

- Assisting Rural communities recover economically from the impacts of the COVID-19 pandemic, particularly disadvantaged communities.
- Ensuring all rural residents have equitable access to Rural Development programs and benefits from Rural

Development funded projects.
- Reducing climate pollution and increasing resilience to the impacts of climate change through economic support to rural communities.

All applicants should carefully review and prepare their applications according to instructions in the ReConnect Program Application Guide and program resources. This Application Guide and program resources can be found at https://www.usda.gov/reconnect/forms-and-resources.

Link to Additional Information: https://www.nsf.gov/pubs/2022/nsf22629/nsf22629.htm

7. Cancer Adoptive Cellular Therapy Network (Can-ACT) for Adult Cancers (UG3/UH3 Clinical Trial Required), NIH

Application Deadline:
- **Letter of Intent: 30 days prior to application due date**
- **Full Proposal: October 28, 2022; June 30, 2023**

Award Budget:
- **UG3 phase: up to $900,000 per year in direct costs**
- **UH3 phase: up to $1,500,000 per year in direct costs**

The overall goal of this funding opportunity announcement (FOA) is to advance new cell therapy strategies into clinical testing for the treatment of solid tumors in adult cancer patients (18 years or older). The successful applications to this FOA (and companion FOAs for the study of pediatric solid tumors and the establishment of a U24 Coordinating Center) will establish -the Cancer Adoptive Cellular Therapy (Can-ACT) Network, dedicated to developing innovative cell therapy approaches for treatment of solid tumors. This Network of investigators will, through novel and collaborative approaches to preclinical and translational studies, bring new cell therapy products into clinical trials.

Awards made under this FOA will initially support a two-year maximum, milestone driven UG3 phase, with a possible transition to a clinical trial implementation phase (UH3) of up to three years duration. Progression to the UH3 phase is based on an administrative review and is dependent on meeting UG3 milestones, NCI programmatic priorities, and the availability of funds. Only UG3 grants that have met scientific milestones and feasibility requirements related to initiation of a clinical trial will be considered for transition to the UH3 phase.

The UG3/UH3 application must be submitted as a single application with the design of the exemplary UH3 clinical trial described in the application, following the instructions described in this FOA. The UG3 phase permits preclinical, translational, and IND-enabling studies. The UH3 phase must include initiation and conduct of an early phase, proof-of-concept, or first-in-human investigator-initiated, single-site, or multi-site clinical trial. NCI may assist UH3-funded multi-site clinical trials using resources from the Immune Cell Network Core (ICN Core) at the Frederick National Laboratory for Cancer Research (FNLCR).

The Can-ACT Network is designed to accelerate the development and testing of adoptive cell therapy for solid tumors in adult and pediatric patients. The UG3/UH3 milestone-driven NCI-collaborative grant mechanism will allow awardees to explore novel cell therapy approaches and to generate preclinical IND-enabling data during the initial UG3 phase, and then rapidly test these approaches in early phase, proof of concept, or first-in-human clinical trials in the UH3 phase. The UG3/UH3 awardees are expected to communicate scientific approaches and data within the network. While single-site trials are permitted, the intent of the network is to leverage the Frederick National Laboratory for Cancer Research (FNLCR) Cell Production and Immune Cell Network Core (ICN Core) facilities and services for small multi-site trials to achieve timely accrual goals. The U24 Coordinating Center will facilitate interaction and cooperation between UG3/UH3 awardees, the FNLCR Cell Production and ICN Core facilities, and NCI project scientists and program officers.

Resources provided by NCI: Immune Cell Network (ICN) Core

The FNLCR houses the ICN Core, which will be providing services for the Can-ACT Network. What follows is the

general assistance to be provided by the ICN Core. Based on the applications received, awards made, and ongoing guidance from the Division of Cancer Treatment and Diagnosis (DCTD), minor changes may be made to best align with the needs of the Can-ACT Network.

The ICN Core will facilitate and support the following activities:

- **Quality Oversight:** The ICN Core will provide Good Clinical Practice (GCP) and Good Manufacturing Practice (GMP) compliance evaluations for the sites, as requested. The ICN core will perform virtual or on-site visits, as appropriate, for Good Clinical Laboratory Practices (GCLP) compliance.
- **Product Attributes Evaluation:** In consultation with the Can-ACT members and NCI, the ICN Core will develop and standardize characterization assays for cell therapy products to be used for clinical trials. The ICN Core may produce and distribute key assay reagents and Standard Operating Procedures to Can-ACT members. The ICN Core will provide quality assurance and regulatory guidance to Can-ACT members, as well as guidance and review of materials for IND submission to the FDA.
- **Multi-site Trial Current Good Manufacturing Practice (cGMP) Production:** The ICN Core will be available to Can-ACT member sites for the production, testing, release, and distribution of cGMP cell therapy products for multi-site Can-ACT clinical trials, including the coordination of autologous raw material and final product logistics between clinical and manufacturing sites. The ICN Core will develop innovative engineering and production processes, as needed.

Specific Research Objective and Requirements

Through this FOA, NCI solicits applications from muti-disciplinary teams for discrete research objectives and clinical trials to establish the adult component of the Can-ACT Network. The teams of investigators will have relevant and complementary expertise and will collaborate to address the unique barriers preventing effective cell therapy in adult cancer patients with solid tumors. The overall goal of this FOA is translation of the tested cell therapy concepts to early phase clinical trials in adult cancer patients. Multiple Project Director/Principal Investigator (PD/PI) and multi-institutional collaborations are encouraged to apply to strengthen novel scientific approaches to adoptive cell therapy research. Awards made under this FOA will initially support a two-year maximum, milestone driven UG3 phase, with a possible transition to a clinical trial implementation phase (UH3) of up to three years. Progression to the UH3 phase is based on an administrative review and is dependent on success in meeting UG3 milestones, NCI program priorities, and availability of funds. Only UG3 grants that have met scientific milestones and feasibility requirements related to initiation of a clinical trial will be considered for transition to the UH3 phase.

- UG3 phase - Must address at least 2 objectives that will advance a new cell therapy concept to clinical testing while also conducting research to advance the understanding and clinical use of cell therapies to treat adult cancer patients with solid tumors. Collaborative team members must consist of appropriate interdisciplinary expertise and capabilities across preclinical and/or translational science to achieve their scientific research objectives.

- UG3 phase to UH3 phase transition - An administrative review will be conducted by NCI program staff to decide whether a UG3 phase grant will be transitioned into the UH3 phase based on the following criteria: (1) Successful achievement of defined milestones in the UG3 phase of the grant; (2) Clear evidence that the Center can initiate a clinical trial in the first year of the UH3 phase; (3) Availability of funds; and (4) Programmatic priorities.

- UH3 phase - Must contain a clinical trial for a novel cell therapy treatment of a solid tumor generally occurring in adults (18 years or older). Note, a lower age limit may be considered if it can be justified based on tumor type. The application must contain a detailed outline of a sample proposed trial, including eligibility criteria, enrollment plan, treatment schema, safety monitoring plan, regulatory plans and reporting, and a statistical analysis plan.

Link to Additional Information: https://grants.nih.gov/grants/guide/rfa-files/RFA-CA-22-028.html

8. NICHD Research Education Programs (R25 Clinical Trial Not Allowed), NIH

Application Due Dates:

- **Letter of Intent: 30 days prior to the application due date**
- **Full Proposal: January 25, 2023; May 25, 2023**

Award Budget: limited to $400,000 direct costs per year for a maximum period of 5 years

The NIH Research Education Program (R25) supports research educational activities that complement other formal training programs in the mission areas of the NIH Institutes and Centers.

The overarching goal of this R25 program is to support educational activities that complement and/or enhance the training of a workforce to meet the nation's biomedical, behavioral and clinical research needs.

To accomplish the stated over-arching goal, this FOA will support creative educational activities with a primary focus on:

- Courses for Skills Development: For example, advanced courses in a specific discipline or research area, clinical procedures for research, or specialized research techniques.

- Research Experiences: Applications are strongly encouraged to include hands-on research experiences as part of the education program.

Research education programs may complement ongoing research training and education occurring at the applicant institution, but the proposed educational experiences must be distinct from those training and education programs currently receiving Federal support. R25 programs may augment institutional research training programs (e.g., T32, T90) but cannot be used to replace or substitute for Ruth L. Kirschstein National Research Service Award (NRSA) programs.

Scope:
This FOA invites applications to develop and conduct short-term research education programs to improve the knowledge and research skills of biomedical and behavioral scientists conducting research in areas relevant to the mission of NICHD, including reproductive, developmental, behavioral, social, and rehabilitative processes that contribute to the health and well-being of newborns, infants, children, adults, families, and populations. Programs should be unique and provide compelling value to students and/or investigators in the field. Depending on the goals of the proposed training programs, the duration of the short courses can vary from one week or less to a maximum of 12 weeks. Recurring courses are allowed, if justified.

R25 programs may be proposed in any research area relevant to the mission of NICHD. The NICHD mission is to lead research and training to understand human development, improve reproductive health, enhance the lives of children and adolescents, and optimize abilities for all. The NICHD's broad research portfolio includes research related to conception and pregnancy; typical and atypical development in childhood; childhood trauma, injury, and critical illness; the transition from adolescence to adulthood; reproductive health; rehabilitation; intellectual, developmental, and physical disabilities; and population dynamics across the lifespan. See NICHD's Extramural Scientific Branches and the National Center for Medical Rehabilitation Research for detailed information on research priorities and activities.

This FOA will support creative educational activities that focus primarily on research skills development. Although activities focused primarily on mentoring activities or professional skills development are not within the scope of this FOA, the informal mentoring activities and professional skills development that are usually associated with courses for research skills development are permitted.

Areas of particular interest include:

- Training in specialized research techniques, research methodology, data sets, or statistical approaches.
- Training in advanced approaches to clinical, translational, or basic research, for instance, training in design and implementation of clinical trials or complex data collection projects.

- Training in the use of model organisms or systems.
- Short-term courses to expose upper undergraduates in the scientific areas that are within the scientific scope of the NICHD.
- Courses in computational analysis of genomic data to identify genomic variants associated with structural birth defects.
- Training in gene editing techniques for producing organisms modeling structural birth defects or studying genes involved with embryonic development.
- Training in approaches toward analyzing and modeling developmental gene regulatory networks.
- Training in the collection of phenotypic and clinical data using controlled vocabularies and ontologies for standardized phenotyping of structural birth defects.
- Virtual skills development courses and supporting resources for researchers on best practice topics such as:
    - The inclusion and retention of pregnant and lactating persons and/or pediatric patients and their families in clinical research.
    - Best practices for increasing the inclusion of under-represented groups in clinical research, focusing on outreach to members of under-represented groups, training of the researchers running the research projects, or both.
    - Data management to address issues such as disclosure review, discoverability, multi-site access to restricted-access data, interoperability, and other aspects of ensuring confidentiality while maximizing data sharing and accessibility.

Program leaders and faculty should be national leaders in the training area being proposed, should have a strong reputation as educators, and, where appropriate, should have current, vibrant research programs.

Proposed programs should have clear practical content, with an expectation that participants will leave the program with enhanced research capabilities related to the mission of NICHD.

This program encourages:

- Courses that include both didactic and hands-on research experiences
- Partnerships across disciplines and institutions
- Train-the-trainers models
- The audience for the educational program may include individuals from the upper undergraduate to the professorial level.

Proposed research education programs submitted to this FOA are expected to be designed for, and available to, a broad audience.

Link to Additional Information: https://grants.nih.gov/grants/guide/pa-files/PAR-22-224.html

9. HEAL Initiative: Opioid Exposure and Effects on Placenta Function, Brain Development, and Neurodevelopmental Outcomes (R01 Clinical Trial Not Allowed), NIH

Application Due Date:

- **Letter of Intent: November 08, 2022**
- **Full Proposal: December 07, 2022**

Anticipated Funding Amount: budgets are not limited but need to reflect the actual needs of the proposed project

This Funding Opportunity Announcement is part of the NIH's Helping to End Addiction Long-term (HEAL) initiative to speed scientific solutions to the national opioid public health crisis. The NIH HEAL Initiative bolsters research across NIH to (1) improve treatment for opioid misuse and addiction and (2) enhance pain management. More information about the HEAL Initiative is available at: https://heal.nih.gov/.

This funding announcement seeks to utilize human and model-based approaches to understand the impacts of prenatal opioid exposure on brain and placental structure and function, including but not limited to examining molecular, neurocognitive, genetic, and epigenetic mechanisms. The mechanistic understanding of how the maternal-placental-fetal ecosystem and fetal brain development interact in response to opioid use, alone or in concert with other substances, to impact neonatal and infant developmental outcomes remains limited; however, this knowledge is critical to establishing appropriate approaches for prevention and early intervention and establishing clinical guidelines for pain management and substance use and dependance treatment during pregnancy.

Objectives:

- Identify the pathophysiological mechanisms underlying the effects of opioids, alone or in combination with other substances of misuse, on placental development and brain development from the fetal through early infancy period.
- Identify consequences of opioid exposure during pregnancy, including pathology and disorders of placental and brain development
- Identify biomarkers of placenta dysfunction or neurodevelopmental risk in response to opioid exposure during pregnancy and identify sensitive periods for placenta dysfunction and neurodevelopmental risk as a result of opioid exposure during pregnancy.
- Identify the neurodevelopmental impacts from the fetal through early infancy period because of adverse maternal health outcomes and altered maternal caregiving behaviors as a result of opioid exposure during pregnancy.
- Identify mediating and moderating factors of neurodevelopmental risk and/or placenta dysfunction in response to opioid exposure during pregnancy, including but not limited to influences of genetics, other or poly-substance use, or environmental factors such as trauma, environmental toxins, food insecurity, or the impacts of structural racism.
- Identify the role of the placenta in sensitive periods for exposure to opioids and neurocognitive outcomes from the fetal through early infancy period.

Scope:
This FOA is for applications that measure the impact of opioid exposure on placenta function and brain development from preconception to early implantation and as the pregnancy proceeds. Applications may propose studies that examine the effects of opioids alone or in combination with other substances. Applications may also propose to examine effects of opioid exposure during pregnancy on longitudinal development between fetal to early infancy periods (i.e., the first year of life). Analyses of longitudinal timepoints are of special interest as they may provide important insights into the developmental signature reflecting placental and neurodevelopmental health, including but not limited to physiological, clinical, cognitive, and environmental factors underlying fetal and infant health versus pathology across gestation. Applications proposing analysis of samples representing a single time point in pregnancy will be accepted only if their value to the overarching goals of this FOA can be demonstrated. The primary focus of this FOA is to identify mechanistic insights relevant to the effects of human opioid exposure on placental function and fetal brain development. The use of animal or in vitro model systems are of interest if the relevance to humans is clearly outlined. In vitro studies that focus on single biochemical pathways will be considered nonresponsive to this FOA unless incorporated into a multimodal approach targeted to the objectives of this FOA.

This FOA also intends to foster collaborative team building. Investigators are encouraged to form collaborations with individuals with the following expertise:

- Neurobiology (including expertise in early fetal neurodevelopment)
- Project and data management, statistical analysis, experimental design, and rigor
- Clinical obstetrics (including expertise in high-risk pregnancy management, pain management, and diagnostics)
- Placental assessment technologies (including imaging and circulating biomarkers)
- Brain assessment technologies (including imaging and brain-behavior correlates)
- Data science (including biomarker identification and use in risk prediction)
- Basic science (including expertise in neurobiology and placenta biology pathways)

Link to Additional Information: https://grants.nih.gov/grants/guide/rfa-files/RFA-HD-23-030.html

10. HEAL Initiative: Translational Development of Diagnostic and Therapeutic Devices (R18 Clinical Trial Not Allowed), NIH

Application Deadline:

- **Letter of Intent: 30 days prior to the application due date**
- **Full Proposal: November 14, 2022; June 19, 2023**

Award Budget: up to $750,000 direct cost per year for three years

As part of the mission of the HEAL Initiative, the participating NIH Institutes and Centers are encouraging the translation of early- and mid-stage technologies and approaches into new non-addictive treatments for pain and OUD. This program announcement is intended to develop new clinical-grade medical devices that are built upon a mechanistic understanding of the underlying biology. A secondary goal of this program announcement is to catalyze the development of partnerships between the academic and industrial sectors so that translational research can flourish as a cooperative, iterative process leading to safe, effective, and non-addictive treatments for pain and OUD. This funding announcement is specifically focused on the preclinical translational development necessary to advance existing and emerging technologies and approaches to the point of clinical testing. The program supports bench and preclinical development of technologies and approaches leading to assembly of market approval applications for the FDA. The scope of this program excludes basic research, or studies of disease mechanism or mechanism-of-action studies. Clinical evaluation of the safety and efficacy of the intended device is beyond the scope of this FOA. Applications to this FOA should not be hypothesis-driven but should propose design-directed development of a new technology or approach.

The intended use of candidate devices may be to diagnose, treat, or rehabilitate, and there are no restrictions on invasiveness—the devices may be non-invasive, minimally invasive, or invasive. The devices may be combination products involving use of drugs and biologic agents; however, the drugs or biologics must already be approved by the FDA for use in pain or OUD treatment. Devices may utilize any viable modality to focally interact with the nervous system, in order to overcome challenges that often lead to medical devices being considered a treatment of last resort. Examples of focal interaction include, but are not limited to optical, electrical, magnetic, acoustic, chemical/pharmaceutical, microfluidic, or combinations thereof.

This FOA is not specific for any one or a group of pain conditions. Projects to treat novel targets for acute pain, chronic pain, migraine, other headache disorders, osteoarthritis, chemotherapy-induced neuropathy, sickle-cell pain, post stroke pain, pain conditions across the lifespan (including in the context of aging), etc. will be responsive. Projects to treat a combination of chronic overlapping pain conditions or for specific pathological conditions will be responsive. Projects that seek to treat novel targets in specific patient populations such as under-represented populations, women, older adults, and children will also be responsive to this FOA and are strongly encouraged.

Projects must have a rigorous mechanistic biological rationale and scientifically sound assays to test the device. Supporting data must be provided that the mechanism of therapy, rehabilitation, or diagnosis has been demonstrated in humans or bench top, ex vivo, in silico, in vitro, and/or in vivo models representative of the intended patient population and indication. Early-stage technologies are responsive, and applicants at an early stage are encouraged to provide a sufficiently credible research plan and supporting data that clinical testing is likely to commence within five years.

Successful applications are expected to:

- Develop a technology or approach that is on a credible path towards clinical use within five years and commercialization within ten years, and perform a preliminary hazard analysis.
- Address the factors that might have otherwise led to the proposed medical device to be considered a treatment of last resort, such as poor identification of responders, invasiveness, surgical revisions or complications, side effects, and unpredictable outcomes.
- Have a plan to continue developing the device after successful completion of the project. One example of such a pathway would be submission of an application to the companion HEAL Initiative FOAs to perform a clinical trial. Applicants are encouraged to discuss with program staff and to consider the entry criteria and goals of these

companion FOAs https://heal.nih.gov/funding/open.

- "Begin with the end in mind," using design-driven development principles, such as gathering input from stakeholders and manufacturing partners, and safe, consistent, and reliable operation. If the candidate device is at a very early stage, then applicants are expected to perform a needs assessment early in the project. Otherwise, the needs assessment is expected to be performed prior to grant application and be included in attachment, as described in Section IV.2.
- Leverage existing technologies and capabilities as much as practicable. Letters of support from all industrial partners are required and signed agreements will be required prior to award.
- Consider, where appropriate, Multiple-PD/PI applications that integrate various domains of expertise, including engineering (biomedical, electrical, mechanical, industrial), computational (modeling, control theory, and statistical analysis), and scientific.

Link to Additional Information: https://grants.nih.gov/grants/guide/rfa-files/RFA-EB-22-002.html

11. Bipartisan Infrastructure Law (BIL) Solar and Wind Grid Services and Reliability Demonstration, Department of Energy/EERE

Application Deadline:

- **Concept Paper: September 15, 2022**
- **Full Proposal: November 17, 2022**

Award Budget:

- **Wind and Solar Grid Services Design, Implementation, and Demonstration: up to $6,000,000 for 36 months**
- **Protection of Bulk Power Systems with High Contribution from Inverter-Based Resources: up to $3,000,000 for 36 months**

This FOA is being issued by EERE on behalf of Solar Energy Technologies Office (SETO) and Wind Energy Technologies Office (WETO) to invest in innovative research and development (R&D) that accelerates the large-scale development and deployment of solar and wind technologies to support an equitable transition to a decarbonized electricity system by 2035, and a decarbonized energy sector by 2050. Achieving this goal will support the nationwide effort to meet the threat of climate change and ensure that workers and communities all across America benefit from the transition to a clean energy economy.

With this FOA, SETO and WETO plan to support demonstration projects that integrate variable renewable generation with other large-scale or aggregated distributed energy resource (DER) technologies to provide critical grid supporting services. These demonstrations, which will last for 6-12 months of the anticipated 36 month award period, at wind, solar, or hybrid power plants (plants comprised of a mix of solar, wind, or other generation or storage technology) at least 10 MW in size, are critical to understanding and addressing the unique challenges related to integrating hundreds of gigawatts of wind and solar generation onto an electricity grid historically designed for large-scale centralized energy generation located far from consumers.

This FOA will support projects that demonstrate innovative approaches to essential grid services such as voltage and frequency control and power recovery during system-wide outages (among others5). Additionally, this FOA will support the development of new tools and technologies to ensure that when more solar and wind generation are deployed on the grid, the transmission grid's protection system will continue to mitigate grid disturbances and protect against cyber and physical risks.

SETO supports solar energy research, development, demonstration, and technical assistance in five areas—photovoltaics (PV), concentrating solar thermal power (CSP), systems integration, manufacturing and competitiveness, and soft costs—to improve the affordability, reliability, and domestic benefit of solar technologies on the electric grid. In May 2021, SETO released its Multi-Year Program Plan, 6 which describes its activities and specific goals for 2025. In September 2021, DOE released the Solar Futures Study,7 which examined solar power's role in decarbonizing the grid by 2035 and 2050. Both of these documents guide SETO's research, development, and demonstration efforts.

WETO plans and executes a diversified portfolio of research, development, and demonstration to reduce the cost of wind energy by advancing technologies for offshore, land-based, and distributed wind energy. WETO also supports research to understand wind-related siting and environmental challenges and to ensure reliable and resilient wind integration to the electric grid.

Technology Space and Strategic Goals:
This funding opportunity will support EERE's near-term goal of demonstrating the reliable operation of a power system that has at up to 100% of its power contribution coming from solar, wind, and battery storage resources. This funding opportunity will support the development of control systems, strategies, and tools to ensure the grid's reliable operation when supplied primarily by these inverter-based resources (IBRs). These controls will be deployed at solar and wind plants and the tools and strategies developed by this research will be utilized by system planners and operators in various regions across the country who develop control and protection strategies, continually monitor the grid, and dispatch resources and control actions as needed.

Community Benefits Plan: Job Quality and Equity

To achieve the greatest impact for all Americans with this once-in-a-generation investment in infrastructure, it is critical that the BIL-funded projects not only contribute to the country's energy technology and climate goals, but also:

1. support community and worker engagement
2. invest in America's workforce
3. further DOE's equity, environmental and energy justice priorities
4. advance DOE's commitment to the Justice40 Initiative

To ensure these critical priorities are met, applications must include a Community Benefits Plan that illustrates how the proposed project will incorporate the four priorities stated above. Within the Community Benefits Plan, the applicant must provide detail on how to ensure accountability, such as through the negotiation of a community benefits agreement (CBA) or other such agreement. These priorities are:

a. Community and Labor Engagement - The project planning should include engagement with an inclusive collection of local stakeholders such as residents and businesses, entities that carry out workforce development programs, labor unions and worker organizations, local government, and community-based organizations that support or work with disadvantaged communities. Considering the importance of the four priorities listed above and the financial investment in the projects to be funded under this FOA, stakeholder engagement is a relatively small cost that delivers high value. Proactive and meaningful engagement with stakeholders ensures stakeholders' perspectives can be incorporated into the project plan, allows for transparency, and helps reduce or eliminate certain risks associated with the project.

b. Quality Jobs - In keeping with the administration's goals12, and to ensure the agency's energy projects contribute to overall economic prosperity, the DOE strongly supports investments that expand good-paying jobs, with assurances that workers will have a free and fair chance to join a union; promote worker power for marginalized workers and in hard-to-organize and changing industries; improve job quality through the adoption of strong labor standards; support responsible employers; and foster safe, healthy, and inclusive workplaces and communities free from harassment and discrimination, and support strategies that develop a skilled and inclusive local workforce to build and maintain the country's energy infrastructure and grow domestic manufacturing.

c. Diversity, Equity, Inclusion, and Accessibility - Advancing equity, civil rights, racial justice, and equal opportunity is a key priority of the Biden Administration. The term "equity" means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons; Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.

As part of a whole of government approach to advancing equity, this FOA seeks to encourage the participation of underserved communities14 and underrepresented groups and to ensure equitable access to business opportunities, good-paying jobs, career-track training, and other economic opportunities. Partnerships with community-based organizations, comprehensive support services to reduce barriers to opportunities, and ensuring business and employment opportunities for members of disadvantaged communities are key tools. Applicants are required to describe how diversity, equity, inclusion, and accessibility objectives will be incorporated in the project.

Further, applicants are highly encouraged to include individuals from groups historically underrepresented in STEM on their project teams.

d. Justice40 Initiative - In addition to the Federal government's initiative to achieve greater participation from underserved communities and underrepresented groups, this FOA supports the goal that 40% of the overall benefits of certain investments flow to disadvantaged communities to support DOE's commitment to the Justice40 Initiative. Benefits include (but are not limited to) measurable direct or indirect investments or positive project outcomes that achieve or contribute to the following in disadvantaged communities:
    1. a decrease in energy burden
    2. a decrease in environmental exposure and burdens
    3. an increase in access to low-cost capital
    4. an increase in quality job creation, the clean energy job pipeline, and job training for individual
    5. increases in clean energy enterprise creation and contracting (e.g., minority-owned or disadvantaged business enterprises)
    6. increases in energy democracy, including community ownership
    7. increased parity in clean energy technology access and adoption
    8. an increase in energy resilience

Priority Research Areas

The Solar and Wind Grid Services and Reliability Demonstration FOA focuses on the research, development, and demonstration of clean energy technologies on the bulk power grid. The objective is to improve the reliability, resilience, safety, and security of the operation of the bulk power grid while simultaneously allowing for a greater amount of wind and solar energy at a reduced cost to be connected to the grid. To accomplish these objectives, SETO is interested in the following two topic areas:

1. Wind and Solar Grid Services Design, Implementation and Demonstration - This topic area supports demonstration projects that integrate renewable generation with other large-scale or aggregated distributed energy resource (DER) technologies to provide grid services. Successful projects will: (1) identify barriers and opportunities for various combinations of solar, wind and energy storage resources with or without other aggregated DERs to provide grid services; (2) research and develop grid services solutions offered by these technologies; and (3) design, develop and implement central, local or hybrid controls with large-scale field demonstrations of these grid services. The projects will also need to define and validate the technology and deployment specifications required for the proposed solutions to ensure reliable and resilient planning and operations of electric grids with high generation contribution from IBRs.

2. Protection of Bulk Power Systems with High Contribution from Inverter-Based Resources - This topic area seeks to support the development of power system protection strategies for the bulk power electric transmission system as it transitions to and operates under scenarios where the majority of electrical generation is provided by IBRs. Projects in this area will investigate how existing protection devices are impacted by the behavior of IBRs responding to grid disturbances, such as faults. The goal of this topic area is to advance modeling and simulation capabilities to perform protection studies in high IBR penetration scenarios to develop a better understanding of how the protection systems will operate in these future scenarios. Additionally, projects in this topic area will develop strategies and new technologies to maintain system protection at any level of IBR penetration. Validating

these studies and technologies through laboratory testing, or preferably field demonstrations, will lead to improved confidence in the transmission system protection, operation, and planning industry that the grid can operate safely and reliably at any mix of synchronous and IBR generation, including up to 100% IBR generation.

Teaming Partner List

Under all topics of this FOA, teams that include multiple partners are preferred over applications that include a single organization. Teams are encouraged to include representation from diverse entities, such as Historically Black Colleges and Universities (HBCU) or Minority Serving Institutions (MSI), or through linkages with Opportunity Zones, and well as with relevant labor unions where appropriate. To facilitate the formation of teams, EERE is providing a forum where interested parties can add themselves to a Teaming Partner List, which allows organizations that may wish to apply to the FOA but not as the prime applicant, to express interest to potential partners.

The Teaming Partner List and instructions will be available at: https://www.energy.gov/eere/solar/articles/funding-notice-solar-and-wind-gridservices-and-reliability-demonstration , as well as on EERE eXCHANGE, during the FOA application period. The list will be updated at least weekly until the close of the full application period, to reflect new teaming partners who have provided their information.

Link to Additional Information: https://eere-exchange.energy.gov/Default.aspx#FoaId06eb81bc-a88e-4560-89fa-d465a29fff62

12. Environmental influences on Child Health Outcomes (ECHO) Coordinating Center (U2C) (Clinical Trial Not Allowed), NIH

Application Deadline:

- **Letter of Intent: October 21, 2022**
- **Full Proposal: November 21, 2022**

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

The objective of this FOA is to solicit applications for an ECHO Coordinating Center to provide comprehensive operational leadership and an organizational infrastructure to manage and coordinate all ECHO Cohort activities. The main roles of the ECHO Coordinating Center are to: 1) Provide oversight and effective project management for all aspects of the ECHO Cohort consortium; 2) Support multiple ECHO Cohort committees and serve as the centralized ECHO Cohort communications center; and 3) Administer the Opportunities and Innovation Fund.

ECHO is committed to diversity, equity, inclusion, and accessibility and, as such, encourages community-engaged recruitment and retention strategies that will enhance the diversity of the ECHO Cohort participants; research that addresses health equity and health disparities; and enhancements in the diversity of the scientific workforce in children's health. In this FOA, the term "diverse populations" includes health disparity populations as defined by NIH.
Scope

This FOA and its companion FOAs will continue to support the ECHO Cohort to allow investigations into the effects of a broad range of early environmental exposures, beginning during the preconception period, on child health outcomes. ECHO is interested in a broad range of exposures including physical and chemical, societal, medical, psychosocial, behavioral, and biological. ECHO will continue to focus on its five key child health outcomes: pre-, peri- and postnatal, upper and lower airways, obesity, neurodevelopment, and positive health. The ECHO Cohort consortium will continue to emphasize solution-oriented research that can inform programs, policies, and practices.

To achieve success, the NIH expects all ECHO awardees to employ outstanding practices of team science, including mutual respect, cooperation, and collaboration, with all consortium members. The ECHO Cohort consortium will include:

- ECHO Cohort Study Sites to lead collaborative ECHO Cohort science; follow up existing ECHO participants; recruit new pregnant participants with emphasis on diverse populations, their resulting offspring, and, if available,

the conceiving partner; develop and implement the ECHO Cohort Preconception Pilot Study; and implement the ECHO Cohort Protocol using ECHO's central data capture system.

- An ECHO Coordinating Center to provide comprehensive operational leadership and an organizational infrastructure to manage and coordinate all ECHO Cohort activities. The Coordinating Center's main roles are to provide program oversight and effective project management for all aspects of the ECHO Cohort Program; support multiple ECHO Cohort committees and serve as the centralized ECHO Cohort communications center; and administer the Opportunities and Innovation Fund for early career scientists.

- An ECHO Data Analysis Center to lead, standardize, and integrate ECHO Cohort Protocol data capture, management, and storage through a central data system; provide analytic support and expertise to analysis proposals approved by the ECHO Cohort consortium; and enrich research infrastructure and data science to facilitate broader sharing of ECHO Cohort data and resources with the scientific community.

- An ECHO Measurement Core to develop and refine measures for the ECHO Cohort Protocol, including methods to implement the measures; assist all ECHO Cohort Study Sites, Cores, and Centers in implementing and evaluating the ECHO Cohort Protocol; and lead strategic decision-making to incorporate new and revised measures to advance ECHO Cohort science while moderating participant and staff burden.

- An ECHO Laboratory Core to provide leadership and infrastructure for all activities related to ECHO Cohort biospecimens and data generated from biospecimen assays. The main roles of the ECHO Laboratory Core are to facilitate collection and processing of biospecimens; manage the ECHO Cohort Biorepository; perform or facilitate a wide range of biospecimen assays to support ECHO Cohort analyses; and coordinate biospecimen information and assay results.

Link to Additional Information: https://grants.nih.gov/grants/guide/rfa-files/RFA-OD-22-021.html

13. NCI Cancer Moonshot Scholars Diversity Program (CMSDP) (R01 Clinical Trial Optional), NIH

Submission Window Date: November 08, 2022, June 06, 2023
Award Budget: budgets are not limited but need to reflect the actual needs of the proposed project

NIH and NCI recognize a unique and compelling need to promote diversity in the biomedical, behavioral, clinical and social sciences workforce. NCI expects efforts to diversify the workforce to lead to the recruitment of the most talented researchers from all groups; to improve the quality of the educational and training environment; to balance and broaden the perspective in setting research priorities; to improve the ability to recruit subjects from minority and other health disparity populations into clinical research protocols, and to improve the Nation's capacity to address and eliminate health disparities. For more information, see Notice of NIH's Interest in Diversity, NOT-OD-20-031 (https://grants.nih.gov/grants/guide/notice-files/NOT-OD-20-031.html).

The CMSDP seeks to diversify the NCI R01 portfolio by enhancing the number of applications proposing to support ESIs from diverse backgrounds, including those from groups identified as underrepresented (NOT-OD-20-031) in the biomedical, clinical, behavioral, and social sciences research workforce. While open to all, individuals from underrepresented groups (URGs) are especially encouraged to work with their respective institutions to apply. In addition, the CMSDP seeks to increase the diversity of thought and approach to cancer research.

The diversity or innovation of scientific approaches that are novel or represent new thinking. The metrics will include number of applications, collaborations that incorporate these new aspects.

Research Scope and Requirements

Proposed research must align with the NCI's mission and may address any of the broad areas of cancer research, including (but not limited to) cancer biology, cancer prevention, cancer diagnosis, cancer treatment, and cancer control.

Basic, translational, clinical, and/or population-based studies in all these research areas are appropriate.

Cancer Moonshot Open Access and Data Sharing Policy: Utilizing the provision outlined in the 21st Century Cures Act, NCI has established a data sharing policy for projects that are funded as part of the Beau Biden Cancer Moonshot Initiative that requires applicants to submit a Public Access and Data Sharing Plan that: (1) describes their proposed process for making resulting publications and to the extent possible, the underlying primary data immediately and broadly available to the public upon publication; and (2) if applicable, provides a justification to NCI if such sharing is not possible. NCI will give competitive preference and funding priority to applications that comply with the above policy. The data sharing plan will become a term and condition of award.

Guiding Principles for Cancer Moonshot Biobanking Activities: The goal in developing these guiding principles is to accelerate research by a) increasing the availability of biospecimens for Cancer Moonshot-related and other biomedical research through facilitation of investigator to investigator sharing of biospecimens, and b) increasing the reproducibility of Cancer Moonshot research through improved biospecimen practices and corresponding annotation. These guiding principles also seek to facilitate, where possible, increased engagement of research participants through researchers' communication of aggregate research results and, in some cases, individual genomic findings that may be medically actionable for research participants. NCI will give competitive preference and funding priority to applications that conform to the "Guiding Principles for Cancer Moonshot Biobanking Activities" (http://biospecimens.cancer.gov/programs/cancermoonshot/principles) and are consistent with the "2016 NCI Best Practices for Biospecimen Resources" (https://biospecimens.cancer.gov/bestpractices/).

Link to Additional Information: https://grants.nih.gov/grants/guide/rfa-files/RFA-CA-22-050.html

14. Understanding the Supply of Professional Dementia Care Providers and Their Decisions (U54 Clinical Trial Not Allowed), NIH

Application Deadline:

- **Letter of Intent: January 3, 2023**
- **Ful Proposal: February 03, 2023**

Award Budget: limited to $16,200,000 in total costs each year. The scope of the proposed project should determine the project period. The maximum project period is 5 years.

This FOA invites applications to develop a national survey of professional dementia care providers and link consented survey respondents (providers and institutional representatives) to administrative data (e.g., electronic health records, claims, payroll, and other institutional and state-level data). The integration of the supply side survey with administrative data can provide deeper insights into: how professional care providers and institutions provide care for persons living with AD/ADRD; how the characteristics of professional care providers, and the characteristics and decisions of the institutions employing them, lead to care variation among PLWD in the United States; and what behaviors could be modified, at both an organization and an individual level, to improve overall health care delivery and eliminate AD/ADRD disparities. This FOA encourages research on dementia care provision to individuals in populations that are underserved or vulnerable due to medical, geographic, and social factors.

The survey will be administered online, on an annual basis, to health care providers and their institutional representatives nationwide. The survey will seek to measure how PLWD are cared for by a wide range of professional providers, the interactions between professional care providers and institutions, and how provider/institution interactions impact the care provided to PLWD across institutional settings.

The survey will encompass multi-dimensional measures—including items related to training, compensation, payment models, care practices, and other procedures, as well as vignettes—and will be linked to administrative data (e.g., claims, electronic health records (EHR), payroll, and other relevant institutional and state-level data) to provide insight on costs, intensity of care provided, guideline-concordant care received by PLWD, and quality of care experienced by PLWD.

To address multiple AD+ADRD Research Implementation Milestones—specifically Milestone 13.J, which relates to

expanding research on the care workforce and supply of skilled labor; Milestone 1.H, which relates to enabling better access to EHR data and providing support for their integration with other data; and Milestone 13.K, which calls for the expansion of research leading to understanding of effectiveness and impacts of non-residential and residential care of PLWD—the national study should be designed to track changes in the following:

1. The mix of skilled labor in the health care system.
2. The care provided to PLWD as a result of changes in health care-related programs, such as Medicare and Medicaid, and/or health care-related policies/guidance.
3. State, provider, and institutional characteristics that affect care for PLWD.

The study should enable exploration of how professional care provider groups and institutions will meet future needs by addressing barriers to entry, interactions among providers, challenges of retention, challenges of recruiting workers from varied backgrounds, causes and effects of turnover, and the impact of the aging physician workforce on care provided for PLWD.

This FOA will support a cooperative agreement that engages scientific expertise at the primary institution as well as external to the primary institution and has the flexibility to draw, as needed, on external scientific expertise to achieve the core functions of this FOA. At minimum, the cooperative agreement must include the following components:

1. Administrative Core - this component will provide administrative support for the cooperative agreement
2. Screening and Survey Instrument Development Core - this component will facilitate and optimize screening, using data from CMS, professional societies, and health care associations, to lower cost for data collection and develop the survey instruments
3. Administrative Data Transfer Masking, Access, and Ethics Core - this component will focus on executing agreements with institutions and building a pipeline (e.g., application programming interface (API)), or other digital means to transfer administrative data to the Data Collection, Linkages, Cleaning and Sharing Core so that it can be linked to survey instruments. In order to safeguard the privacy of survey participants and institutions, it is imperative that this component play a crucial role in masking data (when necessary), consider privacy preserving linkages when appropriate, review data requests for restricted data, set up the governance structure of data with institutions (e.g., organizing Data Review Board meetings), facilitate requests for restricted data use within 30 days of request, and provide ethical guidance for data collection and integration for the overall infrastructure.
4. Data collection, Linkages, Cleaning and Sharing Core - this component will support a competitive process that will enable the selection of an organization to support data collection
5. Research Studies Core - this component will support innovative research projects that will be required to use the data generated from this FOA. Research projects must be designed to address NIA AD/ADRD Research milestones. Individual projects are up to $100,000 in direct costs per project. Up to $800,000 per year in total costs may be budgeted for this purpose, starting in Year 1 and in subsequent years.

Link to Additional Information: https://grants.nih.gov/grants/guide/rfa-files/RFA-AG-23-018.html

15. Time-Sensitive Opportunities for Health Research (R61/R33 Clinical Trial Not Allowed), NIH

Application Deadline:

- **Letter of Intent: 4 weeks prior to application due date**
- **Full Proposal: November 1, 2022**

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

This Funding Opportunity Announcement (FOA) establishes an accelerated review/award process to support novel behavioral and social science research (BSSR) to understand health outcomes related to an unexpected and/or time-sensitive event. Applications in response to this FOA must demonstrate that the research proposed is time-sensitive and must be initiated with minimum delay due to a limited window of opportunity to collect baseline data, answer key research questions, and/or prospectively evaluate a new policy or program that will likely impact health-related behavior or health outcomes in a given population. In other words, the urgency of the public health problem being studied will not,

on its own, be sufficient justification for time sensitivity.

RESEARCH SCOPE

This FOA is intended to support research and data collection for unanticipated real-world events (i.e., those that occur outside of a laboratory or other controlled setting for research purposes). These "events" inherently have limited windows of opportunity for planning and conducting rigorous research and data collection. It is critical that researchers maximize these learning opportunities to better inform health care and public health efforts, as well as policymakers.

This FOA encourages partnerships and collaboration between researchers and the impacted community, which may include the following types of entities (as appropriate): community-based organizations, local and state governments, private or non-profit organizations, behavioral health or health care systems, individual health care providers, departments of health, community health clinics, juvenile or criminal justice settings, schools, child welfare systems, etc.

The distinguishing features of a responsive study are:

1. The unpredictable and unanticipated nature of the research opportunity.
2. The clear scientific value and feasibility of the study.
3. A feasible plan for collection of baseline data and primary data collection (although use of existing data is allowed, a plan for collecting important and new data rapidly should be provided).
4. A justification for why an expedited review and funding (substantially shorter than the typical NIH grant review/award cycle) are required in order for the scientific question(s) to be addressed and the research design to be implemented. Expected study methodologies may include, but are not limited to, interrupted time-series, difference-in-difference designs, regression discontinuity, or propensity scoring.

In situations where applications under this FOA focus on a particular locality (region, community, or other defined geographic area), note that findings should have the potential to be generalizable beyond the particular locality or population. Proposed studies should demonstrate the ability to inform the understanding of the impact of the event, policy, program or infrastructure change in the near-term. Applicants are encouraged to include secondary implementation related outcomes that could inform interpretation of outcomes for future researchers and decision-makers, such as unintended consequences or barriers and facilitators associated with implementation.

Structure:
This FOA will utilize a bi-phasic, milestone-driven R61/R33 mechanism, consisting of a R61 phase with developmental activities and a R33 phase with expanded activities designed to achieve the full research aims. The R61 phase will be up to one year, and will support developmental, exploratory research, Institutional Review Board approval for human subjects' protection, further development of study partnerships, and the collection of baseline data. The R33 phase will build on this initial work for up to four years to include further development, application, follow-up data collection, or implementation as appropriate and relevant to the proposed research questions.

The application should articulate clear aims and objectives for each phase of the proposed research, with specific discussion of how results from the R61 phase will inform the R33 phase. In addition, applications must delineate explicit milestones for the R61 and R33 phases. A milestone is defined as a scheduled event in the project timeline that indicates completion of a project stage or activity. It is expected that baseline data collection will be conducted within six months of award, which should be included in the applicant's submission of a project timeline and milestones. At the completion of the R61 phase, the Program Director (PD)/Principal Investigator (PI) will submit a report that includes the progress on each of the milestones and a clear description of how research during the R33 phase will be impacted by attainment of the R61 milestones. The IC program and other relevant staff will review the report and make recommendations on funding of the R33 grant based on two independent factors: 1) the preliminary research results and achievement of the milestones and 2) availability of funds and program priorities, irrespective of milestone achievements. Transition to the R33 phase is neither automatic nor guaranteed. Funding for the R33 phase is subject to availability of funds and program priorities, independent of milestone achievement. In addition, given the possibility for changes in policy or program implementation that are beyond the control of the grantee, grant awards may be terminated early if these changes limit the possibility to

collect meaningful outcome data.

Specific areas of Research Interest:

- **National Cancer Institute (NCI)** - supports time-sensitive evaluation of programs, policies, and major events that concern aspects of cancer prevention and control

- **Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)** - has particular interest in research on time-sensitive events, policies, programs, or infrastructure changes on vulnerable populations falling within the NICHD scientific mission area, including infants, children, and adolescents and pregnant and post-partum people; individuals with physical and/or intellectual disabilities; and children who are unhoused or in foster care.

- **National Institute on Drug Abuse (NIDA)** - welcomes time-sensitive priority research areas in substance use epidemiology, prevention, and health services, including responses to unexpected and time-sensitive

- **National Institute on Minority Health and Health Disparities (NIMHD)** - to lead scientific research to improve minority health and reduce health disparities. NIMHD focuses on all aspects of health and health care for racial and ethnic minority populations in the U.S. and the full continuum of health disparity causes as well as the interrelation of these causes. NIMHD projects must include a focus on one or more of the following populations that NIH-designates as experiencing health disparities in the United States and its territories: African Americans, Latinos/Hispanics, American Indians and Alaska Natives, Asian Americans, Native Hawaiians and other Pacific Islanders, less privileged socioeconomic groups, underserved rural populations, and sexual and gender minorities. Comparison groups/populations may also be included as appropriate for the research questions posed. NIMHD encourages research projects that use approaches encompassing multiple domains of influence (e.g., biological, behavioral, sociocultural, environmental, physical environment, health system) and multiple levels of influence (e.g., individual, interpersonal, family, peer group, community, societal) to understand and address health disparities (see the NIMHD Research Framework, https://www.nimhd.nih.gov/about/overview/research-framework.html, for more information). Studies based outside the U.S. or its territories will not be supported by NIMHD under this FOA.

- **National Institute of Nursing Research (NINR)** - supports research to solve pressing health challenges and inform practice and policy - optimizing health and advancing health equity into the future. NINR discovers solutions to health challenges through the lenses of health equity, social determinants of health, population and community health, prevention and health promotion, and systems and models of care. Drawing on the strengths of nursing's holistic, contextualized perspective, core values, and broad reach, NINR funds multilevel and cross-sectoral research that examines the factors that impact health across the many settings in which nurses work, including homes, schools, workplaces, clinics, justice settings, and the community. Observational, intervention, and implementation research are of interest to NINR.

- **National Institute on Alcohol Abuse and Alcoholism (NIAAA)** - will support time-sensitive research in public health priority areas in alcohol and related substance use epidemiology, prevention, and health services

- **National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) -** interested in applications focused on evaluating time-sensitive natural experiments that concern populations with or at risk for development of NIAMS core-mission diseases (arthritic and other rheumatic, musculoskeletal, and skin disorders. Examples include, but are not limited to, time-sensitive natural experiments of changes to the neighborhood food and physical activity environments on the health of populations experiencing or at risk for NIAMS core-mission diseases. Studies among underserved, vulnerable, diverse and health disparities populations are encouraged.

- **Office of Disease Prevention (ODP)** - has a specific interest in projects that develop and/or test preventive interventions. Of particular interest is prevention research addressing leading causes and risk factors for premature morbidity and mortality, dissemination and implementation, and health disparities. The ODP does not award

grants; therefore, applications must be relevant to the objectives of at least one of the participating NIH Institutes and Centers (IC) listed in this announcement. Please contact the relevant IC Scientific/Research Contact(s) listed for questions regarding IC research priorities and funding.

- **Office of Research on Women's Health (ORWH)** - For this funding opportunity, ORWH is particularly interested in intersectional research into the health impacts of time-sensitive events, policies, programs, or infrastructure changes on women, including:
    - Impacts of policy changes on the health of women and people who can become pregnant (e.g., state abortion regulations, extensions to postpartum insurance coverage)
    - Impacts of policy changes that influence access to women's preventative health services (e.g., contraception, HPV vaccination, pre-exposure prophylaxis (PrEP))
    - Gender-based violence following time-sensitive events (e.g. natural disasters; pandemics)

Link to Additional Information: https://grants.nih.gov/grants/guide/pa-files/PAR-22-233.html

16. Clinical, Behavioral, and Physiological Studies of Open- and Closed-loop Platforms: Toward Personalized, Fully Automated, Accessible Systems (R01 Clinical Trial Required), NIH

Application Deadline:

- **Letter of Intent: January 28, 2023; September 26, 2023**
- **Full Proposal: February 28, 2023; October 26, 2023**

Anticipated Funding Amount: limited to $500,000 direct costs per year for a maximum project period of 5 years

New technologies for monitoring blood glucose, which provide detailed information about daily glucose patterns, are already in clinical use and are steadily improving in terms of ease of use and accuracy, and, together with integrated insulin delivery systems, represent the state-of-the-art in T1D management. Furthermore, telemedicine/mobile health platforms with remote monitoring capacity through portable miniaturized devices are quickly evolving and are increasingly used. These and emerging/next-generation technologies require further translational research to evaluate and improve their safety, accuracy, and efficacy as research progresses from animal and simulated models to human trials. It is therefore important to continue supporting collaborative research to clinically test current and new technologies to optimize their operability, taking into consideration patient/stakeholder preferences and social, behavioral, and physiological factors, to achieve the goal of viable, functionally integrated open- and closed-loop systems for routine general use. It is also important to conduct studies to test these technologies in patients usually not included in clinical trials and considered high-risk (for instance: high A1c, frequent severe hypoglycemia, impaired awareness of hypoglycemia, high glycemic variability/lability, recently diagnosed, tendency to develop diabetic ketoacidosis, autonomic neuropathy, chronic kidney disease) who may be the ones with the greatest need for these advanced interventions and also to test their safety/efficacy in subsets of the population that need special adaptive technologies and protocols such as older adults, pregnant women, adolescents, very young/infants and groups who are underserved or marginalized.

Research Objectives:
Research is sought in three key areas:

1. clinical/behavioral research focused on enhancing the application of new technology for glucose sensing and insulin delivery to improve glucose control in patients with diabetes, including high-risk patients
2. studies that use new technologies to better understand physiological, neural, psychological, social, and cognitive factors/mechanisms affecting glucose control in people with T1D
3. research to test and improve the efficacy, safety, accuracy, and reliability of these new technologies in humans, including patients who are high-risk or underserved in inpatient and outpatient settings

Research to be supported includes but it is not limited to:

- Evaluate the ability of new open/closed loop technologies and integrative algorithms to optimize metabolic control in patients with T1D improving their safety, reliability, and clinical efficacy
- Address behavioral/psychosocial factors that play a role in the usability and acceptance of these systems and

validation of measures that may be used as outcomes for the demonstration of efficacy and benefit
- Test subpopulations of patients not usually included in clinical trials who may benefit the most from their use as noted above
- Test these technologies in individuals who are underserved or in low income and/or racial and ethnic minority groups, and design studies to better understand disparities in the use and adoption of these systems
- Test integration and adaptation to telemedical and remote monitoring platforms for efective use in remote/underserved areas
- Use the technologies as tools to advance understanding of glucose regulation and its pathophysiology in patients with type 1 diabetes (T1D) including counter-regulation
- Use these technologies to better understand the physiologic, behavioral and psychosocial mechanisms of impaired awareness of hypoglycemia and restorative interventions
- Use new technology to improve understanding of the glycemic response to novel insulin and other pancreatic hormones formulations for the development of effective treatment algorithms adaptable to automated metabolic control platforms.
- Use these technologies to understand the timing and magnitude of glucose excursions that occur with exercise, stress and during sleep, as well as the factors that mediate or influence these excursions.
- Use these technologies to determine whether eliminating or decreasing glucose excursions during the pre-diabetic period or early post-diagnosis period preserves pancreatic endocrine cell function.

Applications must propose either therapeutic or mechanistic clinical trials. A therapeutic trial has a goal of determining clinical safety, tolerability, efficacy and/or effectiveness of an intervention designed to prevent or treat a disease or condition. Mechanistic trials are designed to understand a biologic process, the pathophysiology of a disease, or the mechanism of action of an intervention. A therapeutic trial should have a primary outcome related to improvement of glucose control, including reduction of hypoglycemia. A mechanistic trial may use the technology to elucidate physiologic or behavioral factors relevant to glycemic control. Other outcomes, including patient reported outcomes, are also encouraged.

While the primary outcome of proposed therapeutic studies should relate to glycemic outcomes, a variety of secondary outcomes are also encouraged including examining: the short and long-term relationship between use of these technologies and diabetes self-management behaviors such as adherence to monitoring, diet and exercise recommendations; patient factors that may impact the safety and efficacy of new technologies; quality of life and treatment burden; evaluation of sub-group differences; potential effects to prevent and/or ameliorate chronic complications of diabetes or biomarkers predictive on development of complications.

Link to Additional Information: https://grants.nih.gov/grants/guide/rfa-files/RFA-DK-22-020.html

17. Innovation Corps (I-Corps) Pilot, NASA

Application Deadline:
- **NASA I-Corps Pilot Short Course: may be submitted at any time, until March 29, 2023**
- **NASA I-Corps Pilot National Course: November 18, 2022; January 27, 2023**

Award Information:
- **NASA I-Corps Pilot Short Course: up to $10,000**
- **NASA I-Corps Pilot National Course: up to $40,000**

The program is intended to provide support for participation in the National Science Foundation (NSF) Innovation Corps (I-Corps™) Program to train faculty, students in higher education, post-docs, and other researchers in innovation and entrepreneurship skills. The pilot employs education through virtual courses to guide teams in the process of developing a business model while supporting teams as they explore the commercial potential of their research. NASA's Science Mission Directorate (SMD) and Space Technology Mission Directorate (STMD) are partnering to expand the agency's participation by leveraging the infrastructure of NSF's I-Corps Program and National Innovation Network.

The goal of this NASA I-Corps Pilot is to give teams the opportunity to develop the following capabilities:

- Informed decision-making to facilitate research and/or technology transitions and new NASA funding opportunities.
- Facilitated focus and inspiration on the commercial potential of proposed research and/or technology.
- Advanced workforce development opportunities in science missions and space technology by preparing students with a foundational education in entrepreneurship.
- Enhanced entrepreneurial mindsets.

Key Features:
The NASA I-Corps Pilot is aimed to accelerate the translation of promising ideas from the lab to the marketplace. All pilot teams are required to take a Regional Short Course (hereinafter Short Course) offered by an NSF I-Corps sponsored Hub. While the NSF Hubs do not provide geographic representation for all regions of the U.S., teams are encouraged to participate in the Hubs of nearest geographic proximity. Courses are provided virtually.

Teams that complete the Short Course may propose to take the National Course, see below. The NSF I-Corps National Course (referred to on the NSF website as "I-Corps Cohorts") is offered throughout the year. The steps for National Course participation are described in other sections. Courses have limited capacity, and each course will be comprised of teams that are working on a broad range of topics (i.e., not exclusively science missions and space technologies).

Team Composition:
For both the Short and National Course, a NASA I-Corps Pilot team must include a Technical Lead, an Entrepreneurial Lead, and an Industry Mentor. The Technical Lead serves as the Principal Investigator (PI) of the award, the Entrepreneurial Lead should be listed as a Co-I, and the Industry Mentor as a collaborator. The Technical Lead provides a deep and direct technical expertise in the relevant core research and/or technology area the I-Corps team is exploring. The Entrepreneurial Lead has relevant knowledge of the research and/or technology area and guides translation of the research and/or technology if the project demonstrates the potential for commercial viability. The Industry Mentor is responsible for advising the team through the duration of the course(s) and usually has contacts in the industry area being explored. The Industry Mentor may not receive a stipend or consultancy fees through the grant.

Summary of Training:
Activities All team members of a NASA I-Corps Pilot award are required to participate in the entire Short Course and, if selected, the entire National Course. The curriculum, delivered exclusively in an online format, includes a kick-off meeting with entrepreneurial immersion training, a weekly training meeting, weekly office hours with I-Corps instructors, and a lessons-learned closing presentation. The main activity of the program is to develop a business model through customer discovery, where the team leaves the lab to evaluate potential product-market fit. A team will conduct many interviews with potential customers during both courses. NASA I-Corps Pilot teams are encouraged to travel for in-person customer interviews when feasible. At the end of the Short Course curriculum, teams are expected to have conducted at least thirty (30) virtual or in-person interviews with potential customers (including government agencies) and from their proposed target market(s). At the end of the National Course, teams are expected to have performed at least one hundred (100) virtual or in-person interviews with potential customers (including government agencies) from their proposed target market(s). The interviews provide teams with the customer data needed to refine their hypotheses – ultimately resulting in a more viable business model.

Link to Additional Information: https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7b1B42E782-61BB-9834-F20F-44CBEF13C0A6%7d&path=&method=init

18. Topical Workshops, Symposia, and Conferences (TWSC), NASA ROSES

Application Deadline:

- **Notice of Intent: not mandatory, but first contact a program officer (PO) in a relevant topical area(s)**
- **Full Proposal: any time until May 12, 2023**

Award Budget: contact a SMD Program Officer(s) to investigate the availability of funds

The TWSC program element primarily solicits non-federal proposals for topical workshops, symposia, conferences, and

other scientific or technical meetings (herein referred to as "events"). By definition, TWSC events 1) are sponsored or hosted by a non-federal agency, and 2) advance or align to the goals and objectives of one or more SMD funding Division or Office. Proposals that contribute to SMD's cross-divisional science, technology, and exploration goals also are solicited. When NASA and other civil servants propose to TWSC, the event that they proposed may be subject to limitations described in Section 4.7 "Within NASA, Inter-Agency and NASA-as Primary Sponsor Awards".

A TWSC proposal must describe any travel, logistics, accessibility, and health and safety considerations, including the security of proposed technologies, provided to participants. If the proposing organization is the host of a TWSC event, then a PI shall describe in the proposal the results of consultations within the proposing organization regarding safety policies and risk mitigation procedures in the case of a local or national public health or another type of emergency. When a PI's institution is not the primary host organizing the event, then the proposal shall describe the results of any consultations with the organizers regarding any safety policies/procedures, travel flexibilities, alternate dates, plans for virtual participation, etc.

Proposals are not limited to traditional, e.g., in-person, meetings. Multi-faceted events 1) focused on or related to the application of science, technology, engineering, arts, and math (STEAM) or 2) that are culturally relevant to and focused on targeted populations, such as women, ethnic minorities, rural populations, persons with disabilities, etc. may be eligible when the proposal documents a specific contribution to SMD's goals. Nontechnical or general audience events that integrate NASA Science content into the arts or are science literacy focused are not eligible.

Technical or scientific events that are open to the general public are permissible, but such events may not be a funding priority. Proposals for multiple related events (e.g., seminar series) should be well justified. Historically, this program element has been directed at, and limited to, scientific and technical events of interest to SMD.

Proposed events may be for the dissemination of the relevant science itself; for data analysis that leads to science; and may, but are not required to, include relevant technologies, methods, and capabilities. Events that focus on code development, data compression algorithms, higher order data products, model intercomparisons, the enhancement and/or application of new equipment to make pertinent measurements, etc. are welcome.

Do not prepare or submit a proposal until at least one authorized SMD PO confirms relevancy and/or availability of funds.

Link to Additional Information: https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7bC669B5EF-ACBB-A0E4-B57D-06F31DEABDB5%7d&path=&method=init

Proposals Accepted Anytime

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

b. Mathematical Biology, NSF
https://beta.nsf.gov/funding/opportunities/mathematical-biology

c. 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

d. Sedimentary Geology and Paleobiology (SGP), NSF
https://www.nsf.gov/pubs/2022/nsf22597/nsf22597.htm

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

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

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

Forecasted Opportunities

1. **Resource-Related Research Projects for Development of Animal Models and Related Materials (R24 Clinical Trials Not Allowed), NIH**

The Office of Research Infrastructure Programs (ORIP) intends to reissue RFA-OD-19-027, Resource-Related Research Projects for Development of Animal Models and Related Materials (R24 Clinical Trials Not-Allowed). The FOA is expected to be published in fiscal year 2022 with an expected application due date in fiscal year 2023.

Link to Additional Information: https://www.grants.gov/web/grants/view-opportunity.html?oppId=343268

2. **Diversity Centers for Genome Research (U54 Clinical Trials Optional), NIH**

The National Human Genome Research Institute, with other NIH Institutes and Centers (ICs)-- the National Institute of Mental Health and the National Institute on Minority Health and Disparities, intends to promote a new initiative by publishing a Funding Opportunity Announcement (FOA) to solicit applications to establish Diversity Centers for Genomic Research (DCGR) at Minority Serving Institutions (MSIs). Each DCGR award will support a multi-investigator, interdisciplinary team to develop 2-3 interrelated, innovative genomic research projects that address one or more critical issues in genomics including: genomic technology and methods development; genome structure; genome function; genomics of disease; use and impact of genomic information in clinical care; genomic data science and computational genomics; ethical, legal, and social implications of genomic research; and/or genomics and health equity. Along with its scientific goals, the DCGR will expand the pool of genomic scientists, clinician scientists, and researchers from diverse backgrounds, including those from groups that are underrepresented in biomedical research, who can perform innovative genomics research by providing didactic, practicum and research activities and experiences that are aligned with the research projects.

Link to Additional Information: https://www.grants.gov/web/grants/view-opportunity.html?oppId=343271

3. **Cancer Prevention-Interception Targeted Agent Discovery Program (CAP-IT) Centers (U54 Clinical Trial Not Allowed), NIH**

The overall goal of this FOA is to solicit Applications for Cancer Prevention-Interception Targeted Agent Discovery Program (CAP-IT) Centers (U54). The overall goal of this FOA and the CAP-IT Data and Resource Coordination Center (CAP-IT DRCC) is to establish an agile and effective network infrastructure to undertake collaborative research focusing on precision cancer prevention and interception, with the overarching goal of discovering molecularly or immunologically targeted agents designed to prevent or intercept the oncogenic process in specific higher-risk populations.

In this FOA, cancer prevention means primary prevention of cancer before the oncogenic process begins, while cancer interception is defined as disruption of the oncogenic process during the precursor or precancer state or stage. Precision cancer prevention-interception refers to an approach employing cancer preventive-interceptive interventions individually tailored for different higher-risk populations such as those with hereditary cancer syndromes (HCS) and individuals diagnosed with high-grade precursor abnormalities that place individuals at higher risk of cancer e.g., precancer.

The CAP-IT program aims to functionally validate the critical roles of lead oncogenic targets (oncotargets) selected

from previous or ongoing research studies and/or from existing databases of genomic and molecular profiles of precancer and cancer, and to discover innovative oncotarget-directed agents through in vitro and in vivo efficacy evaluation for precision cancer prevention-interception applications. The ultimate goals of the CAP-IT program are to advance newly discovered efficacious cancer preventive or interceptive agents to the existing preclinical development pipeline, PREVENT Program, for further development towards IND and early phase clinical trials conducted by Cancer Prevention Clinical Trials Network (CP-CTNet) and thereby establish a scientific roadmap and a more streamlined foundational infrastructure for fast-tracking agent discovery and development for cancer prevention and interception from bench to bedside.

Each CAP-IT Center created through the previous FOA (RFA-CA-21-038) and this FOA shall have a consortium of multi-disciplinary laboratories that cooperatively function and support research to validate oncotargets through functional evaluation studies and then discover potentially efficacious agents that interact with these oncotargets for cancer prevention and interception.

Link to Additional Information: https://www.grants.gov/web/grants/view-opportunity.html?oppId=343270

4. **Grants to Support New Investigators in Conducting Research Related to Understanding Polydrug Use Risk and Protective Factors, CDC**

The purpose of the Centers for Disease Control and Prevention National Center for Injury Prevention and Control (NCIPC) Mentored Research Scientist Development Award (K01) is to provide support for an intensive, supervised (mentored) career development experience in substance use and/or overdose prevention research leading to research independence. NCIPC supports K01 grants to help ensure the availability of an adequate number of trained scientists to address critical public health research questions to prevent polydrug use and overdose.

Applicants must propose a research project that aims to better understand and identify risk and protective factors related to polydrug initiation, use, and escalation. This could include, but is not limited to, co-use of opioids, stimulants, and/or cannabis. Additionally, research can focus the examination of potential moderators of risk and protective factors for polydrug initiation, use and escalation; and/or can investigate the relationship between polydrug use and overdose. Research should be conducted among persons experiencing a disproportionate burden of substance use disorders and overdose, which may include but are not limited, to those people in certain socio-demographic groups (e.g. non-English speaking populations, tribal populations, rural communities, racial/ethnic minority groups, sexual and gender minority groups), people experiencing certain social determinants of health (e.g., reduced economic stability; limited educational attainment, access or quality; limited healthcare access or quality including those who have been historically underserved or are uninsured; limited access to substance use treatment; limited health literacy; those in geographically underserved areas), people experiencing certain social or physical health conditions (e.g., homelessness, a mental health condition, chronic pain, incarceration or recent release from incarceration, a disability, a history of substance use disorders and/or overdose), and people who have experienced adverse childhood experiences; and people with a history of suicidal ideation or suicide attempt.

Link to Additional Information: https://www.grants.gov/web/grants/view-opportunity.html?oppId=343253

5. **Primary Care Training and Enhancement: Residency Training in Mental and Behavioral Health (PCTE-RTMB), HRSA**

The purpose of the PCTE-RTMB program is to train primary care residents in the prevention, identification, diagnosis, treatment, and referral of services for mental and behavioral health conditions for pediatric, adolescent, young adult, and other vulnerable populations who are at-risk or have experienced abuse, trauma, or mental health and/or substance use disorders, including the effects of gun violence on mental and behavioral health, and/or mental and behavioral health issues that cause or contribute to gun violence.

Link to Additional Information: https://www.grants.gov/web/grants/view-opportunity.html?oppId=343390

Announcing Previous Important Funding Opportunities

a. Office of Postsecondary Education (OPE): Fund for The Improvement of Postsecondary Education (FIPSE): Basic Needs for Postsecondary Students Program, Dept. of Education
Deadline: October 03, 2022
https://www.grants.gov/web/grants/view-opportunity.html?oppId=342792

b. Engineering Research Initiation (ERI), NSF
Deadline: October 11, 2022
https://www.nsf.gov/pubs/2022/nsf22595/nsf22595.htm

c. Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES), NSF
Deadline: October 25, 2022
https://www.nsf.gov/pubs/2022/nsf22622/nsf22622.htm

d. Astronomy and Astrophysics Research Grants (AAG), NSF
Deadline Window Date: October 01, 2022 - November 15, 2022
https://www.nsf.gov/pubs/2022/nsf22624/nsf22624.htm

e. Advancing Informal STEM Learning (AISL), NSF
Deadline: January 11, 2023
https://www.nsf.gov/pubs/2022/nsf22626/nsf22626.htm

f. Linguistics, NSF
Deadline: January 15, 2023
https://beta.nsf.gov/funding/opportunities/linguistics

g. Launching Early-Career Academic Pathways in the Mathematical and Physical Sciences (LEAPS-MPS), NSF
Deadline: January 26, 2023
https://www.nsf.gov/pubs/2022/nsf22604/nsf22604.htm

h. Mid-Career Advancement (MCA), NSF
Deadline Window Date: February 01, 2023 - March 01, 2023
https://www.nsf.gov/pubs/2022/nsf22603/nsf22603.htm

i. NIAMS Clinical Trial Planning Grant (R34) - Clinical Trial Not Allowed, NIH
Deadline: March 03, 2023
https://grants.nih.gov/grants/guide/pa-files/PAR-22-205.html

j. NHPRC-Mellon Planning Grants for Collaborative Digital Editions in African American, Asian American, Hispanic American, and Native American History and Ethnic Studies, National Archives
Deadline: June 7, 2023
https://www.archives.gov/nhprc/announcement/digitaleditions

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