Oportunidades de Fondos Externos
ACADEMIC YEAR 2020 - 21 / VOLUME X
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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 02/23/2021 and is in no way all-inclusive of funding opportunities available. Further information has been shared with External Resource Coordinators and Research Coordinators at each UPR campus by e-mail or MS Teams.

INDEX

1. Preservation and Access Education and Training, National Endowment for the Humanities

Application Deadline: May 18, 2021

The National Endowment for the Humanities (NEH) Division of Preservation and Access is accepting applications for the Preservation and Access Education and Training program. The purpose of this program is to support the development of knowledge and skills among professionals responsible for preserving and establishing access to humanities collections. Awards are made to organizations that offer national, regional, or statewide education and training programs that provide the staff of cultural institutions with the knowledge and skills needed to serve as effective stewards of humanities collections.

The Preservation and Access Education and Training program supports the development of knowledge and skills among professionals responsible for preserving and establishing access to humanities collections. Thousands of libraries, archives, museums, and historical organizations across the country maintain important collections of books and manuscripts, photographs, sound recordings and moving images, archaeological and ethnographic artifacts, art and material culture collections, electronic records, and digital objects. The challenge of preserving and making accessible such large and diverse holdings is enormous, and the need for knowledgeable staff is significant and ongoing.

Preservation and Access Education and Training awards are made to organizations that offer national, regional, or statewide education and training programs across the pedagogical landscape and at all stages of development, from early curriculum development to advanced implementation. Awards help the staff of cultural institutions, large and small, obtain the knowledge and skills needed to serve as effective stewards of humanities collections. Awards support projects that prepare the next generation of preservation professionals, as well as projects that introduce heritage practitioners to new information and advances in preservation and access practices.

A pre-application webinar for prospective applicants will be held April 6, 2021 at 1:00 p.m. Eastern Time. Registration is not required, click here to join. A recording will be available and posted on this site by April 15, 2021 for those unable to attend.

Link to Additional Information: https://www.neh.gov/grants/preservation/preservation-and-access-education-and-training

2. Chemical Upcycling of Polymers, Department of Energy - Office of Science

Application Deadline: May 12, 2021

The DOE SC program in Basic Energy Sciences (BES) announces its interest in receiving applications on behalf of single investigators and teams of investigators, which may involve multiple institutions, to support fundamental experimental and theoretical efforts that advance chemical upcycling of polymers and circular design of next-generation plastics. The term “plastic” describes a wide array of polymeric materials with diverse compositions and properties. Finished plastic products may include multiple polymeric components and often contain additives to obtain desirable physical, chemical, or mechanical properties. Understanding of chemical approaches that make use of end-of-life plastic products as feedstocks to regenerate the same product, or otherwise upcycle them to new, more valuable products, is limited. BES seeks innovative fundamental research that creates the scientific foundations for new technology solutions to reduce plastic waste, lower the energy impacts of plastic production through chemical upcycling, and create energy- and carbon-efficient feedstocks for valuable products through chemical upcycling of polymers.

This FOA supports basic research in chemical and materials sciences to advance the understanding of the chemical upcycling of end-of-life plastics and circular design of next-generation polymers. Chemical upcycling of plastics is defined here as processes which minimize energy consumption in creating new products from discarded plastics while making efficient reuse of the carbon building blocks of polymers, retaining the level of complexity of the plastic feedstock and/or providing enhanced utility of new products formed when compared to the starting material. Beyond chemical functionalization or deconstruction of today’s commodity plastics, consideration of the complete lifecycle of plastics may lead to development of new monomers and polymers purposefully designed for more facile atom- and energy-efficient recycling or upcycling of plastics. Circularity-by-design can encompass systems that are not constrained to repeated, closed loop production of the same product, so long as reuse of carbon content is efficient and sustained through many energy-efficient product cycles.

BES held a community Roundtable to define priority research opportunities (PROs) for basic research relevant to chemical upcycling and circular design of polymers. The report from this Roundtable is available on the BES website: Basic Energy Sciences Roundtable on Chemical Upcycling of Polymers - https://science.osti.gov/-/media/bes/pdf/reports/2020/Chemical_Upcycling_Polymers.pdf.

This FOA emphasizes cross-cutting, fundamental research in the following areas:

- Discovery and design of new chemical pathways to deconstruct synthetic polymeric materials efficiently and selectively into useful chemical intermediates or to functionalize existing polymers to provide new, materials with improved properties.
- Detailed molecular-level mechanistic understanding of macromolecular conversions of polymers to materials or chemical intermediates for upcycled products from plastics, such as deconstruction and reassembly of polymers, controlled functionalization of single polymers feeds or selective reaction of single polymer classes in mixed plastic streams, compatibilization of mixed polymers, and similar chemical transformations leading to upcycled products.
- Co-design of materials and chemical processes, coupling aspects of plastics construction, use, disassembly, and reassembly to maximize energy efficiency. This includes design and synthesis of new polymers for materials with similar or improved properties relative to current plastics that can be upcycled either in closed loops (recreating the starting material) or in cascades of processes producing series of different products that significantly extend the useful lifetime of the carbon building blocks of polymers.
- Novel approaches for efficiently delivering the energy required to drive specific chemical transformations and enable both energy- and carbon-efficient plastics upcycling. This may include strategies that use electro-, photo-, and photo(electro)chemical approaches, or that couple these inputs to thermal processes.
- Development of next-generation tools to probe macromolecular transformations and/or to understand polymer-catalyst interactions and behavior that drive conversion and selectivity during upcycling processes. This includes experimental, computational, and data science approaches, and their integration, to gain insights into mechanisms of materials and macromolecular transformations.

Link to Additional Information: Go to www.grants.gov and search for Funding Opportunity **DE-FOA-0002462**

3. Bridging the Word Gap Research Network (BWG), Department of Health and Human Services, Health Resources and Services Administration

Application Deadline: April 22, 2021

This notice announces the opportunity to apply for funding for the Bridging the Word Gap Research Network (BWG). Previous research has found that on average, by age three, children from low-income families knew less than half of the number of words compared to children from more economically advantaged families (i.e., 500 words versus 1100 words). This word gap negatively impacts early language learning, educational attainment, health care-seeking, and socioeconomic outcomes in later years. The purpose of this program is to establish and maintain a national, multi-site, collaborative Research Network to develop, test, and promote effective interventions for supporting the enrichment of the early home learning environments of children from underserved2 families for whom there are limited interventions or existing interventions are ineffective.

BWG will:

1. Lead, promote, and coordinate national research activities to support the enrichment of early home learning environments experienced by children from underserved families relative to children from families with greater resources;
2. Develop and maintain an infrastructure to support a portfolio of interdisciplinary research to foster the implementation of multi-site intervention research studies to support the enrichment of children's early home learning environments;
3. Coordinate a plan to enhance the research, training and mentorship of diverse emerging MCH investigators through the use of innovative mentorship/research experiences and manuscript development;3 and
4. Expand the evidence base and disseminate study findings to key stakeholders including parents, educators, researchers, policymakers, and relevant professionals in the health and community sectors.

The recipient of the cooperative agreement should leverage existing work in the field, as appropriate, and extend the impact of HRSA's existing programs and resources. The BWG research network should collaborate with researchers, health care practitioners, early childhood educators, policymakers, civic leaders and funders to advance a coordinated national research agenda to develop individual, community, and population-based interventions to support the enrichment of early home learning environments for underserved children. Identification and dissemination of information on effective strategies allows parents and relevant professionals in the health and community sectors to create stronger early home learning environments and promote all children's readiness for kindergarten.

Link to Additional Information: https://www.grants.gov/web/grants/view-opportunity.html?oppId=328461

4. Future Manufacturing, National Science Foundation

Application Deadline: May 14, 2021

The global manufacturing ecosystem has evolved dramatically in recent decades, driven by forces of technology and globalization and steered by the pursuit of greater efficiencies at scale. The Strategy for American Leadership in Advanced Manufacturing states that worldwide competition in manufacturing has been dominated in recent decades by the maturation, commoditization, and widespread application of computation in production equipment and logistics, effectively leveling the global technological playing field and placing a premium on low wages and incremental technical improvements.[1] The next generation of technological competition in manufacturing will be dictated by the use of computation to ensure the reliable translation of product designs to manufacturing plans; process controls that provide assurances that the execution of those plans will produce products that meet specifications; inventions of new materials, chemicals, devices, systems, processes, machines, and design and work methods; and new social structures and business practices. Fundamental research will be required in robotics, artificial intelligence, biotechnology, materials science, sustainability, education and public policy, and workforce development to lead this global competition. The research supported under this solicitation will enhance U.S. leadership in manufacturing far into the future by providing new capabilities for established companies and entrepreneurs, improving our health and quality of life, reducing the impact of manufacturing on the environment and addressing global challenges such as climate change, pandemics and smart growth. The goal of Future Manufacturing is to support fundamental research and education of a future workforce to overcome scientific, technological, educational, economic and social barriers in order to enable new manufacturing capabilities that do not exist today. Future Manufacturing will require major advances in technologies and algorithms for the synthesis and production of new materials, chemicals, devices, components and systems of assured quality with high yield at reasonable cost. It will require new advances in artificial intelligence and machine learning, new cyber infrastructure, new approaches for mathematical and computational modeling, new dynamics and control methodologies, new ways to integrate systems biology, synthetic biology and bioprocessing, and new ways to influence the economy, workforce, human behavior, and society. Future Manufacturing requires creative convergence approaches in science, technology and innovation, empirical validation, and education and workforce development to address pressing challenges for manufacturing. At the same time, Future Manufacturing can leverage highly integrated physical, digital and social frameworks that underpin society to enable manufacturing that addresses urgent social challenges such as global health disparities, economic and social divides, infrastructure deficits of marginalized populations and communities, and environmental sustainability. Cross-disciplinary partnerships among scientists, engineers, social and behavioral economists, and experts in arts and humanities may be required to provide solutions that are equitable and inclusive.

Among this array of technologies and potential research subjects, three thrust areas have been identified for support in FY 2021 under this solicitation: Future Cyber Manufacturing Research, Future Eco Manufacturing Research, and Future Biomanufacturing Research. This solicitation seeks proposals to perform fundamental research to enable new manufacturing capabilities in one or more of these thrust areas. This solicitation will support the following two award tracks: Future Manufacturing Research Grants (FMRG)- up to $3,000,000 for up to four years; and Future Manufacturing Seed Grants (FMSG)-up to $500,000 for up to two years. Interdisciplinary teams commensurate with the scope of the proposed research, education plan, and budget are required. Proposals must include demonstrated expertise among the team members to carry out the proposed research, education, and workforce development activities. The use of a convergence approach is expected[2]. The goal of this solicitation is to enable new manufacturing that represents a significant change from current practice. Therefore, proposers responding to this solicitation must include within the Project Description a section titled Enabling Future Manufacturing. Please see "Full Proposal Preparation Instructions" for additional details. Realization of the benefits of the fundamental research supported under this solicitation will require the simultaneous education of a skilled technical workforce that can transition new discoveries into U.S. manufacturing companies. The National Science Board has recently emphasized this perspective in its report, "THE SKLLED TECHNICAL WORKFORCE: Crafting America's Science and Engineering Enterprise."[3]

Therefore, proposers responding to this solicitation must include a section titled Education and Workforce Development Plan that describes plans to equip students and upskill the workforce to enable Future Manufacturing. Please see "Full Proposal Preparation Instructions" for additional details. FURTHER INFORMATION: An informational webinar will be held on February 26, 2021 at 1:00 PM EST to discuss the Future Manufacturing program and answer questions about this solicitation. Details about how to join this webinar will be posted at https://nsf.gov/events/event_summ.jsp?cntn_id=301968&org=NSF.A recording and transcript will be posted there soon after the webinar is held.

[1] https://trumpwhitehouse.archives.gov/wp-content/uploads/2018/10/Advanced-Manufacturing-Strategic-Plan-2018.pdf
[2] https://www.nsf.gov/od/oia/convergence/index.jsp
[3] https://www.nsf.gov/nsb/publications/2019/nsb201923.pdf

Link to Additional Information: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf21564

5. Stimulating Collaborative Advances Leveraging Expertise in the Mathematical and Scientific Foundations of Deep Learning, National Science Foundation

Application Deadline: May 12, 2021

Deep learning has met with impressive empirical success that has fueled fundamental scientific discoveries and transformed numerous application domains of artificial intelligence. Our incomplete theoretical understanding of the field, however, impedes accessibility to deep learning technology by a wider range of participants. Confronting our incomplete understanding of the mechanisms underlying the success of deep learning should serve to overcome its limitations and expand its applicability. The National Science Foundation Directorates for Mathematical and Physical Sciences (MPS), Computer and Information Science and Engineering (CISE), Engineering (ENG), and Social, Behavioral and Economic Sciences (SBE) will jointly sponsor new research collaborations consisting of mathematicians, statisticians, electrical engineers, and computer scientists. Research activities should be focused on explicit topics involving some of the most challenging theoretical questions in the general area of Mathematical and Scientific Foundations of Deep Learning. Each collaboration should conduct training through research involvement of recent doctoral degree recipients, graduate students, and/or undergraduate students from across this multi-disciplinary spectrum.

This program complements NSF's National Artificial Intelligence Research Institutes and Harnessing the Data Revolution programs by supporting collaborative research focused on the mathematical and scientific foundations of Deep Learning through a different modality and at a different scale. When responding to this solicitation, even though proposals must be submitted through the Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences (MPS/DMS), once received, the proposals will be managed by a cross-disciplinary team of NSF Program Directors. PI teams must collectively possess appropriate expertise in three disciplines - computer science, electrical engineering, and mathematics/statistics. Each project must clearly demonstrate substantial collaborative contributions from members of their respective communities; projects that increase diversity and broaden participation are encouraged. A wide range of scientific themes on theoretical foundations of deep learning may be addressed in these proposals. Likely topics include but are not limited to geometric, topological, Bayesian, or game-theoretic formulations, to analysis approaches exploiting optimal transport theory, optimization theory, approximation theory, information theory, dynamical systems, partial differential equations, or mean field theory, to application-inspired viewpoints exploring efficient training with small data sets, adversarial learning, and closing the decision-action loop, not to mention foundational work on understanding success metrics, privacy safeguards, causal inference, and algorithmic fairness.

Link to Additional Information: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf21561

6. Institutes for Higher Education Faculty, National Endowment for the Humanities

Application Deadline: March 9, 2021

NEH Institutes are professional development programs that convene higher education faculty from across the nation in order to deepen and enrich their understanding of a variety of topics in the humanities and enrich their capacity for effective scholarship and teaching. Most fundamentally, institutes:

- allow immersive study of topics of significance to the humanities
- foster new fields of study and/or revitalize existing areas of inquiry
- reinvigorate teaching and increase intellectual impact in the classroom
- build lasting communities that foster participants' intellectual and professional collaboration

They should:

- ground the study in significant humanities texts and related resources
- explore multiple approaches to the topic in a manner that is both rigorous and collegial
- provide opportunities for deep and collaborative engagement with the topic
- model excellent scholarship and teaching
- consider how the topic engages recent developments in the scholarship, teaching, and curriculum of participants' professional settings
- reach the widest possible audience for whom the topic is relevant

Link to Additional Information: https://www.neh.gov/grants/education/institutes-higher-education-faculty

7. Institutes for K-12 Educators, National Endowment for the Humanities

Application Deadline: March 9, 2021

NEH Institutes are professional development programs that convene K-12 educators from across the nation in order to deepen and enrich their understanding of a variety of topics in the humanities and enrich their capacity for effective scholarship and teaching. Most fundamentally, institutes:

- allow immersive study of topics of significance to the humanities
- foster new fields of study and/or revitalize existing areas of inquiry
- reinvigorate teaching and increase intellectual impact in the classroom
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They should:

- ground the study in significant humanities texts and related resources
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- consider how the topic engages recent developments in the scholarship, teaching, and curriculum of participants' professional settings
- reach the widest possible audience for whom the topic is relevant

What's new for 2021:

- NEH will not offer seminars in 2022, but institutes may involve small teams of visiting scholars and/or significant time for seminar-style discussion.
- Institutes may be offered in a residential, virtual, or hybrid format.
- The program of study may include time before, during, and/or after the summer.
- Participant stipends will vary depending on both project format and duration
- Level II applicants must propose a significantly more robust dissemination plan than in previous years.
- All applicants must include an academic schedule and a work plan.

Link to Additional Information: https://www.neh.gov/grants/education/institutes-k-12-educators

8. Research Grants to Develop or Identify Effective Strategies to Prevent Overdose Involving Illicit Stimulants and Polysubstance Use Involving Stimulants, DHHS, Centers for Disease Control and Prevention

Application Deadline: March 9, 2021

The NCIPC Division of Overdose Prevention is soliciting investigator-initiated research that will support the identification of effective strategies for state, community, or systems-level implementation to prevent illicit stimulant use or fatal and nonfatal overdoses involving illicit stimulants (e.g., methamphetamine and cocaine), or polysubstance use or overdose involving illicit stimulants. Research supported by this Notice of Funding Opportunity (NOFO) is intended to address one of the two following objectives:

- Objective 1: Conduct a process and outcome evaluation of new or adapted strategies, programs, or policies that can be implemented at the state, community, or systems-level to prevent illicit stimulant use or fatal and nonfatal overdose involving illicit stimulants, or polysubstance use or overdose involving illicit stimulants, OR
- Objective 2: Assess risk and protective factors for illicit stimulant use, use disorder, and overdose that can contribute to the development or adaptation of intervention strategies.

Applicants may propose to conduct research activities under either Objective 1 or Objective 2. Applicants may not propose research activities addressing both Objectives. Applicants must clearly indicate in the Abstract and Specific Aims sections of the application which objective (e.g., Objective 1 or Objective 2) the research proposal will address.

Applications funded under Objective 1 will be funded for a maximum of $725,000 per year for a project period of up to three years. Applications funded under Objective 2 will be funded for a maximum of $362,500 per year for a project period of up to three years.

NCIPC intends to fund applications evaluating the effectiveness of a prevention strategy through both a process evaluation and an outcome evaluation. Of particular interest is research that focuses on populations experiencing high rates of stimulant-involved overdose, such as those disadvantaged by reduced economic stability, limited education attainment, access, and quality, and limited health care access and quality. The focus on these groups aims to ensure that research advances knowledge among varied populations at risk for overdose. NCIPC intends to fund applications that focus on these populations. Additional anticipated long-term outcomes of this funding include increased translation of research to practice, and enhanced capacity of states, communities.

Link to Additional Information: Go to www.grants.gov and search for Funding Opportunity **RFA-CE-21-002**

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

Application Deadline (2-Tier Process): April 5, 2021 (www.grants.gov) April 19, 2021 (JustGrants)

This solicitation provides funding for communities to develop and provide support services for children exposed to violence. The overall goal of the program is to build the capacity of families and communities to help children exposed to violence.

Objectives

1. Reduce the incidence of violence through accountability efforts for juvenile offenders.
2. Improve family and community responses to children exposed to violence.
3. Increase protective factors to prevent juvenile violence, delinquency, and victimization.
4. Support communities to develop, design and deliver strategies to support children exposed to violence.

Deliverables

Category 1: Project Sites.

- Enhance and/or develop supportive services for children exposed to violence in their homes, schools, and communities.
- Develop community-based approaches and crime-reduction strategies that focus on prevention and intervention of violent crime, and accountability for youth offenders.
- Provide outreach strategies to increase awareness and build the capacity of families and communities to help children exposed to violence.

Applicants must propose and undertake their work through a multidisciplinary team of stakeholders, which may be either an existing collaborative group or one that is formed specifically for this project. A description of the team structure must be referenced in the program narrative and must be submitted as an attachment labeled "Planning Team." This planning team should meet regularly throughout the project period to identify and address service gaps and barriers, and create a blueprint for a comprehensive network of services for children exposed to violence and their families, build the capacity of communities to help children exposed to violence, and prevent/reduce juvenile violent crime.

Category 1 applications submitted by non-law enforcement agencies must have an established partnership with a law enforcement agency at the local or state level for the purpose of advancing the objectives of the grant, as described in the Program Narrative. A fully executed Memorandum of Understanding (MOU) (or equivalent agreement) documenting this partnership must be included as an attachment with the submitted application to meet basic minimum requirements and to be considered for funding.

To advance Executive Order 13929, Safe Policing for Safe Communities, the Attorney General determined that all state, local, and university or college law enforcement agencies must be certified by an approved independent credentialing body or have started the certification process to be eligible for FY 2021 DOJ discretionary grant funding. To become certified, the law enforcement agency must meet two mandatory conditions: (1) the agency's use of force policies adhere to all applicable federal, state, and local laws; and (2) the agency's use of force policies prohibit chokeholds except in situations where use of deadly force is allowed by law. The certification requirement also applies to law enforcement agencies receiving DOJ discretionary grant funding through a subaward. For detailed information on this new certification requirement, please visit https://cops.usdoj.gov/SafePolicing EO to access the Standards for Certification on Safe Policing for Safe Communities, Implementation Fact Sheet, and List of Designated Independent Credentialing Bodies.

Link to Additional Information: https://ojjdp.ojp.gov/funding/fy2021/O-OJJDP-2021-47013

10. Equipment Grants Program, Department of Agriculture, National Institute of Food and Agriculture

Application Deadline: March 9, 2021

The Equipment Grants Program (EGP) serves to increase access to shared-use special purpose equipment/instruments for fundamental and applied research for use in the food and agricultural sciences programs at institutions of higher education, including State Cooperative Extension Systems. The program seeks to strengthen the quality and expand the scope of fundamental and applied research at eligible institutions, by providing them with opportunities to acquire one shared-use piece of equipment/instrument that supports their research, research training, and extension goals and may be too costly and/or not appropriate for support through other NIFA grant programs. EGP grants are not intended to replace requests for equipment in individual project applications. The program emphasizes shared-use instrumentation that will enhance the capabilities of researchers, educators, and extension specialists both within and outside the proposing organization.

Proposals to the EGP must involve acquisition of a single, well-integrated piece of equipment/instrument. Well-integrated means that the ensemble of equipment that defines the instrument enables specific fundamental or applied research experiments in the food and agricultural sciences, including data science and data systems, separating or removing an element or component of such an integrated instrument would preclude that research from occurring or succeeding. An instrument acquired with support from EGP is expected to be fully operational by the end of the award period.

The EGP does not support the acquisition of suites of equipment to outfit research laboratories /facilities or to conduct independent experiments simultaneously. Similarly, the EGP does not fund common, general purpose ancillary equipment that would normally be found in a laboratory and/or is relatively easily procured by the organization or through other NIFA grant programs. Rather, it is intended to help fund items of equipment that will upgrade infrastructure. Moreover, EGP does not fund research projects, including research that uses the equipment acquired with support from the program nor does it support installation, modification of facilities, training on equipment operation, or operation and maintenance of facilities or equipment.

The amount available for support of this program in FY 2021 is approximately $4,800,000.

Link to Additional Information: https://nifa.usda.gov/funding-opportunity/equipment-grant-program-egp

11. Veterinary Services Grant Program (VSGP), Department of Agriculture, National Institute of Food and Agriculture

Application Deadline: April 16, 2021

The Veterinary Services Grant Program (VSGP) is designed to support education and extension activities and practice enhancement initiatives that will enable veterinarians, veterinary students, veterinary technicians, and veterinary technician students to gain specialized skills and provide practices with additional resources (e.g., equipment, personnel) needed to more effectively mitigate veterinary service shortages in the U.S. Ultimately, this program will bolster the capacity of private practitioners to provide food animal veterinary services in designated rural veterinarian shortage situations. The purpose of VSGP is to develop, implement, and sustain veterinary services and relieve veterinarian shortage situations in the U.S., which includes insular areas (see Part VIII, D of this RFA for a definition of "insular area"). Grants will be made available on a competitive basis to:

1. Establish or expand accredited veterinary education programs, veterinary residency and fellowship programs, or veterinary internship and externship programs carried out in coordination with accredited colleges of veterinary medicine.
2. Provide continuing education and extension, including veterinary telemedicine and other distance-based education, for veterinarians, veterinary technicians, and other health professionals needed to strengthen veterinary programs and enhance food safety and public health.
3. Cover travel and living expenses of veterinary students, veterinary interns, externs, fellows, and residents, and veterinary technicians.
4. To expose students in grades 11 and 12 to education and career opportunities in food animal medicine.

Education, extension, and training (EET) grants are initiatives that will enable veterinarians, veterinary students, veterinary technicians, and veterinary technician students to gain specialized skills through activities and practice enhancement, with additional resources (e.g., equipment, personnel) needed, to more effectively mitigate veterinary service shortages in the United States. Rural practice enhancement (RPE) grants ultimately bolster the capacity of private practitioners to provide to animal veterinary services in designated veterinarian shortage situations. Proposals should emphasize educational content that teaches:

1. Veterinary practice enhancement techniques and strategies that benefit the health of agricultural animals

2. Best practices for delivering quality veterinary services in rural areas, and/or
3. Veterinary approaches to foster food safety, epidemiology, or veterinary public health.
4. Career opportunities in food animal medicine.

Link to Additional Information: https://nifa.usda.gov/funding-opportunity/veterinary-services-grant-program-vsgp

12. Food and Agriculture Service-Learning Program (FASLP), Department of Agriculture, National Institute of Food and Agriculture

Application Deadline: May 3, 2021

The purpose of the Food and Agriculture Service-Learning Program is to increase the knowledge of agricultural science and improve the nutritional health of children. The program's goal is to increase the capacity for food, garden, and nutrition education within host organizations or entities, such as school cafeterias and classrooms, while fostering higher levels of community engagement between farms and school systems by bringing together stakeholders from distinct parts of the food system. The initiative is part of a broader effort to not only increase access to school meals for low-income children, but also to dramatically improve their quality.

Food and Agriculture Service-Learning Projects are intended for eligible applicants to scale up or further develop existing farm to school initiatives and other food and agriculture experiential learning initiatives within a distinct area of communities and schools in a State or region. Applicants should also add to existing activities or include new activities such as training and technical assistance, evaluation activities, curriculum development, or incorporate farm to school strategies in trainings and professional opportunities along with working closely with agricultural producers in the local and regional areas.

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

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

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

Link to Additional Information: https://nifa.usda.gov/funding-opportunity/food-and-agriculture-service-learning-program

13. Offshore Wind Energy Environmental Research and Instrumentation Validation, Department of Energy

Application Deadline: Concept Plan – 03/01/2021 Full Proposal - May 5, 2021

In conjunction with the National Oceanographic Partnership Program (NOPP), and in coordination with partnering agencies, the Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy (EERE), Wind Energy Technologies Office (WETO) is releasing a Funding Opportunity Announcement (FOA) to support regionally focused, coordinated research efforts to increase understanding of the environmental impacts of offshore wind development as well as to advance and validate technical readiness of tools for monitoring and minimizing impacts.

WETO plans and executes a diversified portfolio of early-stage research and development to advance technologies for offshore, land-based, and distributed wind energy, and its integration with the electric grid. This work aims to drive down the cost of wind energy through competitively selected, cost-shared projects, carried out in collaboration with industry, universities, research institutions, and other stakeholders. As part of its broad research and development (R&D) portfolio, WETO invests in research to inform

environmental solutions in order to lower wind energy costs, increase capacity, accelerate reliable and safe energy production, and address environmental impacts.

The U.S. is poised at a unique opportunity with respect to supporting research to understand and minimize the impacts of offshore wind on wildlife and commercial species. The growing pipeline of proposed offshore wind projects in various stages of planning provides an opportunity for the development of coordinated research approaches to:

1) Minimize uncertainty with respect to impacts on wildlife and commercially fished species through coordinated research efforts, as well as develop research methodologies that provide an analytical framework for understanding those impacts in broader population, regional, and temporal contexts.
2) Demonstration, testing, validation, and improvement of environmental monitoring and mitigation technologies and methodologies, as well as validation of the costs and effectiveness of same.
3) Research to prepare for future development of offshore wind off the West Coast of the U.S.

Research funded under this solicitation should be developed with reference to the body of existing research in this space, in coordination or partnership with ongoing offshore wind focused and ocean science efforts, and with an intent to place research within a broader regional context.

- Topic Area 1: Environmental Research, Validation of Tools and Methods, and Multi-Year Evaluation of Impacts of Offshore Wind Energy Development on Wildlife in U.S. Atlantic Waters
- Topic Area 2: Environmental Research, Validation of Tools and Methods, and Multi-Year Evaluation of Impacts of Offshore Wind Energy Development on Ecology of Commercially Fished Species
- Topic Area 3: Environmental Baseline Data Collection and Monitoring Tool Development and Validation for Evaluating Impacts of Offshore Wind Energy Development on Wildlife in U.S. Waters off of the West Coast

Link to Additional Information: Go to https://eere-exchange.energy.gov/ and search for Funding Opportunity **DE-FOA-0002237**

14. Autism Field-Initiated Innovative Research Studies Program (Autism-FIRST), Department of Health and Human Services, Health Resources and Services Administration

Application Deadline: April 15, 2021

The Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB)'s Office of Epidemiology and Research is accepting applications for the fiscal year (FY) 2021 Autism Field-Initiated Innovative Research Studies (Autism-FIRST) Program. The purpose of this program is to support empirical research that advances the evidence base on interventions designed to improve the health of children, adolescents, and young adults with autism spectrum disorders and other developmental disabilities (ASD/DD) across the lifespan. Because racial and ethnic disparities exist in the early screening and diagnosis of ASD/DD, the Autism-FIRST Program has a special focus on addressing the needs of underserved populations, such as low-income, racial/ethnic minorities, individuals living in rural areas and, in the case of ASD/DD populations, girls and young women, who are often under identified with regard to ASD, particularly at the higher functioning end.1 The Autism-FIRST program supports research studies that address critical issues surrounding the health and well-being of underserved children, adolescents, and young adults with ASD/DD up to the age of 26, and their families, recognizing that the first 25 years of life help lay the foundation for health and well-being across the lifespan.

A focus on underserved populations is consistent with HRSA's mission as an agency that promotes access to equitable and coordinated health and health care delivery services. A focus on children, adolescents, and young adults up to the age of 26 is consistent with the mission of the Maternal and Child Health Bureau (MCHB) and the populations it serves.

The Autism-FIRST's program's goals and objectives are to:

- Generate new evidence to address the needs of underserved ASD/DD populations for whom there is limited evidence of the effectiveness of interventions, and limited access to screening, diagnosis, and treatment for ASD/DD;
- Contribute to the broad public health impact to improve health and service delivery services through studies that are generalizable and replicable for underserved ASD/DD populations; and
- Conduct and disseminate findings from applied and/or translational research on critical and emerging ASD/DD issues using a research design focused on collection of primary data among underserved populations, with a special focus on underserved populations and children, adolescents, and young adults up to the age of 26. Examples of autism intervention research topics of interest to HRSA's MCHB include, but are not limited to, developing and testing ways to:

- Improve access to supports and services among underserved populations of children, adolescents, and young adults with ASD/DD and their families;
- Effectively tailor services, supports, and interventions to individual and family strengths, needs, and challenges, recognizing the heterogeneity with which ASD/DD manifests itself across children, adolescents, and young adults with ASD/DD and their families;
- Facilitate the transition into adulthood, including continuity in health care and other supports and services associated with optimal transitions and laying the foundation for improved health and well-being across the lifespan;
- Improve the coordination of care across different aspects of the medical home, and/or across multiple sectors (e.g., health, school) that affect the lives of children, adolescents, and young adults with ASD/DD and their families; and
- Identify services and supports that mediate or moderate relations between family stresses and outcomes for children, adolescents, and young adults with ASD/DD.

Link to Additional Information: https://www.hrsa.gov/grants/find-funding/hrsa-21-053

15. Agriculture and Food Research Initiative Competitive Grants Program Education and Workforce Development Program, Department of Agriculture, National Institute of Food and Agriculture

Application Deadline: From April 22, 2021 to July 1, 2021 depending on program tract selected

The Agriculture and Food Research Initiative - Education and Workforce Development (EWD) focuses on developing the next generation of research, education, and extension professionals in the food and agricultural sciences. In FY 2020, EWD invites applications in five areas: professional development for agricultural literacy; training of undergraduate students in research and extension; fellowships for predoctoral candidates; fellowships for postdoctoral scholars, and a brand-new program for agricultural workforce training. See EWD Request for Applications for specific details.

The AFRI EWD RFA addresses projected shortfalls of qualified graduates in the agricultural, food, and renewable natural resources sectors of the U.S. economy (Employment Opportunities for College Graduates). This RFA seeks applications for education and training grants that focus on further enhancing the distinct components of the pipeline for developing the workforce in the food and agricultural sciences. Thus, the AFRI EWD has four overarching goals:

1. Growing Agricultural Literacy and Workforce Development for the Future offers institutional grants to provide K-14 teachers and administrators with increased knowledge of food and agricultural sciences and help them develop improved curricula to train the agricultural workforce for the future. See Program Area Description in Part 1, C, 1 for "Professional Development for Agricultural Literacy" (Program Code A7501).

2. Training or Retraining of Agricultural Workers provides institutional training grants to develop a technology- and data-savvy workforce, ready for the field and industrial jobs. See Program Area Description in Part 1, C, 2 for "Agricultural Workforce Training Grants" (Program Code A7601).

3. Developing Pathways seeks to support the development of non-formal education activities that cultivate interest and build public confidence in the safe and enhanced use of technology in food and agricultural sciences. See Program Area Description in Part 1, C, 3 for "Food and Agricultural Non-formal Education" (Program Code A7801). Additionally, this RFA offers institutional grants that offer experiential learning for undergraduates in food, agriculture, or allied disciplines, and helps them learn the technical and leadership skills required for employment in the food and agricultural sectors or in graduate programs. See Program Area Description in Part 1, C, 4 for "Research and Extension Experiences for Undergraduates" (Program Code A7401).

4. Advancing Science supports graduate and post-graduate education in food and agriculture disciplines. See Program Area Description in Part 1, C, 5 and Part 1, C, 6 for "Predoctoral Fellowships" (Program Code A7101) and "Postdoctoral Fellowships" (Program Code A7201), respectively.

Program Area Priority	**2021 Review Cycle Deadlines**
1. Professional Development for Agricultural Literacy (A7501)	June 10, 2021
2. Agricultural Workforce Training (A7601)	June 17, 2021
3. Food and Agricultural Non-formal Education (A7801)	May 6, 2021
4. Research & Extension Experiences for Undergraduates (A7401)	July 1, 2021
5. Predoctoral Fellowships (A7101)	May 27, 2021

Program Area Priority	2021 Review Cycle Deadlines
6. Postdoctoral Fellowships (A7201)	May 20, 2021
7. Agricultural Literacy and WorkforceDevelopment Evaluation (A7702)	April 22, 2021

Link to Additional Information: https://nifa.usda.gov/funding-opportunity/agriculture-and-food-research-initiative-education-workforce-development

16. EPSCoR Research Infrastructure Improvement (RII) Track-4: EPSCoR Research Fellows, National Science Foundation

Application Deadline: April 26, 2021

The Established Program to Stimulate Competitive Research (EPSCoR) is designed to fulfill the mandate of the National Science Foundation (NSF) to promote scientific progress nationwide. EPSCoR jurisdictions that are eligible for RII competitions are listed in the RII Eligibility table, which can be found here. Through this program, NSF establishes partnerships with government, higher education, and industry that are designed to effect sustainable improvements in a jurisdiction's research infrastructure, Research and Development (R&D) capacity, and hence, its R&D competitiveness. One of the strategic goals of the EPSCoR program is to establish sustainable Science, Technology, Engineering, and Mathematics (STEM) professional development pathways that advance STEM workforce development.

EPSCoR Research Infrastructure Improvement Track 4: EPSCoR Research Fellows provides awards to build research capacity in institutions and transform the career trajectories of investigators and to further develop their individual research potential through extended collaborative visits to the nation's premier private, governmental, or academic research centers. Through collaborative research visits at the host site, fellowship awardees will be able to learn new techniques, develop new collaborations or advance existing partnerships, benefit from access to unique equipment and facilities, and/or shift their research toward potentially transformative new directions. The experiences gained through the fellowships are intended to have lasting impacts that will enhance the Fellows' research trajectories well beyond the award period. These benefits to the Fellows are also expected to improve the research capacity of their institutions and jurisdictions more broadly. Principal Investigators must either hold a non-tenured faculty appointment at an institution of higher education or an early-career, career-track appointment at an eligible non-degree-granting institution.

EPSCoR Research Infrastructure Improvement Track 4: EPSCoR Research Fellows offers the following tracks:

- RII Track-4:NSF and RII Track-4:Fellows Advancing Science and Technology (RII Track-4: FAST). While they are similar in achieving the same goals, RII Track-4:NSF is open to a broad community and RII Track-4:FAST focuses on faculty from specific institutions of higher education to collaborate with researchers at the National Aeronautics and Space Administration (NASA) participating research centers. PIs that are eligible for both tracks may apply for only one track per competition cycle.

- RII Track-4:NSF provides support to further develop the individual research potential of Principal Investigators (PIs) through extended collaborative visits to the nation's premier private, governmental, or academic research centers of their choice.

- RII Track-4:FAST provides opportunities for PIs from specific institutions of higher education with high enrollments of trainees from underrepresented populations in STEM (See Section "IV. Eligibility Information" for more details). The aim of this opportunity is to further develop their individual research potential through extended collaborative visits to NASA research facilities located at NASA Centers throughout the United States.
- Only single-PI proposals will be considered. No co-PIs should be included on the proposal.

- For RII Track-4:NSF: 3 - Only three proposals may be submitted in response to this solicitation by any single organization in a RII-eligible jurisdiction. If more than three proposals are received from any single institution for the competition, all proposals from that institution are subject to return without review.

- For RII Track-4:FAST: 6 - Only six proposals may be submitted in response to this solicitation by any single organization in a RII-eligible jurisdiction. If more than six proposals are received from any single institution for the competition, all proposals from that institution are subject to return without review.

Link to Additional Information: https://www.nsf.gov/pubs/2021/nsf21557/nsf21557.pdf

17. Immune Cell Engineering for Targeted Therapy and Disease Monitoring in Type 1 Diabetes, Department of Health and Human Services, National Institutes of Health

Application Deadline: June 22, 2021

Type 1 Diabetes (T1D) is a progressive immune-mediated disease that is preceded by an asymptomatic period of highly variable duration in humans. Currently, it is known that 80% of individuals with genetic risk and autoantibodies of two or more different specificities will progress to symptoms within 10 years. Means to detect disease initiation prior to the development of a widespread beta cell-centric autoimmune response could facilitate the use of early therapeutic regimens to prevent the progression to early stage T1D. Critical to the development of these alternative therapeutic strategies is the identification of cellular or molecular biomarkers of early pathogenesis in and around the pancreas, to include alterations in islet health or changes in interactions between the immune and the pancreatic (or peri-pancreatic) compartments. The minuscule amount of pancreatic islet tissue makes it extremely difficult to detect molecular signals specific for beta cell stress or cellular immune responses in peripheral blood. An outstanding challenge for early detection of T1D is to develop non-invasive strategies to report on a disease environment developing in a small tissue compartment nested within the deeper layers of the body.

What triggers the T1D autoimmune response or maintains its progression is still unclear, but beta cell stress is thought to be important. The barriers to the discovery of natural biomarkers of beta cell stress or injury mentioned above lead us to propose the development of synthetic sentinels and early treatment-delivery tools. Such tools could be engineered to home to the pancreatic tissue, detect the appearance of cellular stress, inflammation or damage during the earliest stages of the disease process, report on these events, and ultimately, deliver commensurate therapeutic interventions. Immune cells, with their natural ability to circulate in blood and tissues, to home to specific cellular compartments, and to sense and respond dynamically to their environment, are an ideal candidate for engineering cell-based sentinels that can home to the target tissue to monitor and possibly correct early disease events. Immune cells can be isolated from peripheral blood, genome-edited and amplified in vitro, and re-infused in the donor. Specifically, immune cells could be engineered to home to the pancreatic or islet tissue compartment, to sense and respond quantitatively and proportionally to a dysregulated environment by producing a unique and easily detectable synthetic signal, and to deliver a therapeutic response. Recent years have seen considerable progress in the engineering of synthetic receptors and gene circuits to provide immune cells with sensing and biological response capabilities not found in nature. For example, the expression of synthetic receptors on T cells that recognize specific cancer epitopes are already resulting in spectacular therapeutic breakthroughs and FDA approvals. These synthetic immunology tools can now be applied to the development of cell systems for early monitoring of the T1D disease environment and for the delivery of a therapeutic response that is specific and proportional to the type of tissue damage, inflammation or autoimmune attack characteristic of the early stages of T1D pathogenesis.

This initiative will support the design, production and biological validation of immune cells that can be used as sentinels to report on previously inaccessible information about diabetes initiation and progression, and/or vehicles to deliver environment-specific therapeutic responses to restore islet health and prevent the progression to T1D. Projects responsive to this initiative could include (but are not limited to) the development of:

- cellular sentinels that can home to pancreatic tissue compartments to sense a developing disease environment; report on beta cell stress, inflammation or injury by producing a stable, measurable, but inert product that can be detected in body fluids;
- collections of islet-homing synthetic immune clones, each equipped with a different sensing-response circuit and traceable reporter construct, for the PET imaging-enabled monitoring of various aspects of islet dysfunction and non-invasive disease staging in vivo;
- islet-homing immune cells engineered to quell inflammation and reduce morbidity by contributing to tissue homeostasis and repair through the regulated production of natural or synthetic factors with trophic effects on beta cells to promote function, immune-protection and/or replication;
- engineered antigen-specific Treg cells that can home to the pancreatic islet or pancreatic draining lymph nodes and inhibit effector T cells in these compartments;
- islet-homing synthetic suppressor cells, such as CD4 T cells engineered to locally produce factors that dampen inflammation, inactivate effector T cells, or promote islet tissue repair;
- macrophages engineered to detect stressed or dying beta cells and to produce factors that control islet inflammation in a regulated way;
- antigen presenting cells specifically designed to modulate events in lymphoid tissues for antigen-specific tolerance induction;
- islet-homing immune cells equipped with multiple chimeric antigen receptor systems that can integrate a diversity of signals from multiple antigens in the islet environment and respond with the regulated secretion of multiple immunomodulatory or regenerative factors.

Immune cell engineering for the monitoring and/or the treatment of autoimmune diseases is a promising area of investigation, but is still in its infancy. This initiative will support the development of exploratory engineering approaches such as innovative strategies to equip immune cells with new sensors and controllable therapeutic responses, regardless of the safety hurdles that may lay ahead on the path to clinical application. On the other hand, optimization of potency and safety could be major goals of an application, including ways to kill or down-modulate the engineered cells in an inducible fashion, particularly for engineering strategies that are closer to clinical applications. This initiative also encourages the participation of investigators who may be new to the field of autoimmune diabetes, but may have relevant expertise in areas such as immune cell engineering or synthetic biology.

For this initiative, the engineering of immune cells of human origin is strongly encouraged, although murine cell engineering is acceptable for exploratory projects, particularly if it facilitates the in vivo validation of the strategy.

Link to Additional Information: http://grants.nih.gov/grants/guide/rfa-files/RFA-DK-21-005.html

18. Undergraduate Research Training Initiative for Student Enhancement (U-RISE), Department of Health and Human Services, National Institutes of Health

Application Deadlines: May 26, 2021; May 26, 2022; & May 26, 2023

The goal of the Undergraduate Research Training Initiative for Student Enhancement (U-RISE) program is to develop a diverse pool of undergraduates who complete their baccalaureate degree, and transition into and complete biomedical, research-focused higher degree programs (e.g., Ph.D. or M.D./Ph.D). This funding opportunity announcement (FOA) provides support to eligible, domestic institutions to develop and implement effective, evidence-based approaches to biomedical training and mentoring that will keep pace with the rapid evolution of the research enterprise. NIGMS expects that the proposed research training programs will incorporate didactic, research, mentoring, and career development elements to prepare trainees for the completion of research-focused higher degree programs in biomedical fields. This program is limited to applications from training programs at research-active institutions (i.e., those with a 3-year average of NIH Research Project Grant funding less than $7.5 million total costs).

The National Institutes of Health (NIH) recognizes the need to diversify the scientific workforce by enhancing the participation of individuals from groups identified as underrepresented in the biomedical, clinical, behavioral and social sciences (collectively termed "biomedical") research workforce. Research shows that diverse teams working together and capitalizing on innovative ideas and distinct perspectives outperform homogenous teams. Scientists and trainees from diverse backgrounds and life experiences bring different perspectives, creativity, and individual interests to address complex scientific problems. There are many benefits that flow from a diverse NIH-supported scientific workforce, including fostering scientific innovation, enhancing global competitiveness, contributing to robust learning environments, improving the quality of research, enhancing public trust, and increasing the likelihood that health disparities and the needs of underserved populations are addressed in biomedical research.

NIGMS strives to ensure that future generations of researchers will be drawn from the entire pool of talented individuals, bringing different aptitudes, perspectives, interests, and experiences to address complex scientific problems. NIGMS seeks to enhance the diversity of the biomedical research workforce by supporting individuals from a variety of backgrounds at multiple training and career stages in a variety of institutions and educational settings across the country. Accordingly, NIGMS developed separate institutional eligibility tracks for review and funding of its undergraduate and graduate diversity enhancing programs based on NIH research project grant (RPG) funding levels. The two tracks include research-intensive, i.e., those with an average of NIH RPG funding greater than or equal to $7.5 million total costs per year over the past 3 fiscal years, and research-active, i.e., those with an average of RPG funding less than $7.5 million total costs per year over the past 3 fiscal years (RPG data are available through NIH RePORTER). To prevent the duplication of diversity enhancing NIGMS programs, each institution will be eligible for one diversity enhancing undergraduate program (either Maximizing Access to Research Careers, MARC, or Undergraduate Research Training Initiative for Student Enhancement, U-RISE) regardless of the activity code (R25 or T34), and one diversity enhancing graduate program (either the Initiative to Maximize Student Development, IMSD, or Graduate Research Training Initiative for Student Enhancement, G-RISE) regardless of the activity code (R25 or T32). Institutions with MARC, U-RISE, IMSD or G-RISE are eligible to participate in the Bridges to the Baccalaureate and/or Bridges to the Doctorate programs provided other eligibility requirements are met.

The **Overarching Objective** of the Undergraduate Research Training Initiative for Student Enhancement program is to develop a diverse pool of undergraduates who complete their baccalaureate degree and transition into and complete biomedical, research-focused higher degree programs (e.g., Ph.D. or M.D./Ph.D.). The long-term goal is to develop a diverse pool of well-trained biomedical scientists, who have the following technical, operational, and professional skills:

- A broad understanding across biomedical disciplines and the skills to independently acquire the knowledge needed to advance their chosen fields;

- Expertise in a biomedical scientific discipline and the skills to think critically and independently, and to identify important biomedical research questions and approaches that push forward the boundaries of their areas of study;
- A strong foundation in scientific reasoning, rigorous research design, experimental methods, quantitative and computational approaches, and data analysis and interpretation;
- The skills to conduct research in the safest manner possible, and a commitment to approaching and conducting biomedical research responsibly, ethically, and with integrity;
- Experience initiating, conducting, interpreting, and presenting rigorous and reproducible biomedical research with increasing self-direction;
- The ability to work effectively in teams with colleagues from a variety of cultural and scientific backgrounds, and to promote inclusive and supportive scientific research environments;
- The skills to teach and communicate scientific research methodologies and findings to a wide variety of audiences (e.g., discipline-specific, across disciplines, and the public); and
- The knowledge, professional skills and experiences required to identify and transition into careers in the biomedical research workforce (i.e., the breadth of careers that sustain biomedical research in areas that are relevant to the NIH mission).

Diversity at all levels - from the kinds of science to the regions in which it is conducted to the backgrounds of the people conducting it - contributes to excellence in research training environments and strengthens the research enterprise. This FOA is intended to support outstanding research training programs that will enhance diversity at all levels. As part of a larger initiative to enhance diversity, the U-RISE program will support trainees who are earning a baccalaureate degree at research-active institutions and who intend to complete a biomedical research higher degree program (e.g., Ph.D., or M.D./Ph.D.).

Link to Additional Information: http://grants.nih.gov/grants/guide/pa-files/PAR-21-146.html

19. Provider's Clinical Support System – Universities, Department of Health and Human Services, Substance Abuse and Mental Health Services Administration

Application Deadline: April 20, 2021

The Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Substance Abuse Treatment (CSAT), is accepting applications for fiscal year (FY) 2021 Provider's Clinical Support System – Universities (Short Title: PCSS-Universities) grants. PCSS-Universities is authorized under Section 509 of the Public Health Service Act. The purpose of this program is to expand/enhance access to medication-assisted treatment (MAT) services for persons with an opioid use disorder (OUD) seeking or receiving MAT through ensuring the education and training of students in the medical, physician assistant (PA), and nurse practitioner (NP) fields. This program's focus is to ensure students fulfill the training requirements needed to obtain a DATA waiver to prescribe MAT in office-based settings. The desired outcomes include:

1. an increase in the number of individuals completing the training requirements for the DATA waiver;
2. an increase the number of individuals with a DATA waiver; and an
3. ultimate increase in those prescribing.

Key Personnel: Key personnel are staff members who must be part of the project regardless of whether or not they receive a salary or compensation from the project. These staff members must make a substantial contribution to the execution of the project. The key personnel for the PCSS-Universities grants is the Project Director.

Required Activities: In Section B.1 of the Project Narrative, applicants must indicate the total number of unduplicated individuals that will be trained each year of the grant and over the total project period. You are expected to achieve the numbers that are proposed. These are the activities that the project is expected to implement:

- Develop a DATA waiver training plan that is approved by one of the DATA waiver organizations named in law as eligible to certify that the training plan meets DATA waiver requirements or obtain approval of the planned curriculum from your state medical board. Develop efforts to work with other states for waiver reciprocity for students trained in your school but who may leave the state to practice in another state.
- Ensure faculty with the knowledge, training, expertise, and experience necessary to train students on DATA waiver content are secured to provide this training. Faculty and trainers providing this education must have the DATA waiver (if eligible by profession) and must be able to demonstrate significant experience with the treatment of patients with OUD and other substance use disorders (SUD) as well as current experience with MAT in clinical settings that can also be used as training sites for students as part of their practical education. Content of the training will include topics outlined in the Comprehensive Addiction and Recovery Act (CARA):
  - opioid maintenance and detoxification;

- appropriate clinical use of all drugs approved by the Food and Drug Administration for the treatment of opioid use disorder;
- initial and periodic patient assessments (including substance use monitoring);
- individualized treatment planning, overdose reversal, and relapse prevention;
- counseling and recovery support services;
- staffing roles and considerations;
- diversion control; and
- other best practices.

- Ensure DATA waiver training is a standard part of curriculum which is offered to all relevant students. The standard core curriculum must comprise this training as a component.
- Ensure appropriate students meet full training requirements for the waiver by the completion of their education. This includes at least 8 hours of training for physicians and at least 24 hours for PAs/NPs.
- Provide appropriate marketing for this training, explanation of needs for such training, and outreach to students for the training project.
- Train in both didactic and practice settings. Once students begin clinical rotations, ensure that students receiving the training are exposed to actual implementation which includes working with patients receiving MAT for OUD. Students must be given the opportunity to shadow physicians, PAs, and NPs who are providing treatment, including MAT for OUD.
- Develop a plan to sustain inclusion of the curriculum into the established school curricula and training of health professionals after the grant has ended.

Link to Additional Information: https://www.samhsa.gov/grants/grant-announcements/ti-21-003

20. Designing Accountable Software Systems, National Science Foundation

Application Deadline: April 19, 2021

Society is becoming highly dependent on software applications, systems, and platforms, as functionality in all aspects of business, government, and everyday life is increasingly implemented through software. At the same time, there has been an increase in the laws and regulations whose implementation and effectiveness depend on software. Whereas organizations and individuals throughout our history have been expected to comply with laws and regulations, now software systems also must be accountable and comply with them. Software systems need to be designed with legal and regulatory compliance in mind, and should be adaptable to changing laws and regulations, which themselves evolve with changing citizen expectations and social norms. The Designing Accountable Software Systems (DASS) program solicits foundational research aimed towards a deeper understanding and formalization of the bi-directional relationship between software systems and the complex social and legal contexts within which software systems must be designed and operate.

The DASS program aims to bring researchers in computer and information science and engineering together with researchers in law and social, behavioral, and economic sciences to jointly develop rigorous and reproducible methodologies for understanding the drivers of social goals for software and for designing, implementing, and validating accountable software systems. DASS will support well-conceived collaborations between these two groups of researchers. The first group consists of researchers in software design, which, for the purposes of this solicitation, is broadly defined as formal methods, programming languages, software engineering, requirements engineering and human-centered computing. The second group consists of researchers in law and the social, behavioral, and economic sciences, who study social systems and networks, culture, social norms and beliefs, rules, canons, precedents, legal code, and routine procedures that govern the conduct of people, organizations, and countries.

Proposals for this program must create general advances in both (1) understanding the social, behavioral, economic and/or legal context of software design; and (2) improving the methodology for designing accountable software beyond specific use cases. Each proposal must have at least one Principal Investigator (PI) or co-PI with expertise in software design and at least one PI with expertise in law or a social, behavioral, or economic science. All proposals must contain a detailed collaboration plan that leverages the complementary expertise of the PIs/co-PIs in the designated areas and describes the mechanisms for continuous bi-directional collaboration. Projects are limited to $750,000 in total budget, with durations of up to three years.

Link to Additional Information: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf21554

21. Research and Development, National Endowment for the Humanities

Application Deadline: May 18, 2021

The Research and Development program supports projects that address major challenges in preserving or providing access to humanities collections and resources. These challenges include the need to find better ways to preserve materials of critical

importance to the nation's cultural heritage—from fragile artifacts and manuscripts to analog recordings and digital assets subject to technological obsolescence—and to develop advanced modes of organizing, searching, discovering, and using such materials.

This program supports projects at all stages of development, from early planning and stand-alone studies, to advanced implementation. Research and Development projects contribute to the evolving and expanding body of knowledge for heritage practitioners, and for that reason, outcomes may take many forms. Projects may produce any combination of laboratory datasets, guidelines for standards, open access software tools, workflow and equipment specifications, widely used metadata schema, or other products.

Research and Development supports work on the entire range of humanities collection types including, but not limited to, moving image and sound recordings, archaeological artifacts, born digital and time-based media, rare books and manuscripts, archival records, material culture, and art. Applicants must demonstrate how advances in preservation and access through a Research and Development project would benefit the cultural heritage community by supporting humanities research, teaching, or public programming.

Research and Development projects are encouraged to address one or more of the following areas of special interest:

- Preserving our audiovisual and digital heritage
- Conserving our material past
- Protecting our cultural heritage
- Serving under-represented communities

Link to Additional Information: https://www.neh.gov/grants/preservation/research-and-development

22. Immune Development in Early Life (IDEaL), Department of Health and Human Services, National Institutes of Health

Application Deadline: June 4, 2021

The purpose of this Funding Opportunity Announcement is to support research to define the mechanisms regulating the establishment, development, and maintenance of immunity throughout childhood (from birth to less than 18 years of age), including the impact of pathogenic or non-pathogenic microbes or vaccination against infectious diseases, allergens, and environmental pollutants on immune ontogeny and function. This program will establish collaborations among immunologists, neonatologists, pediatricians, systems biologists, and microbiologists to expand our knowledge of the developing immune system. Knowledge obtained through this program may be applied to the design of improved vaccines and immunotherapies to combat infections or treat/prevent immune-mediated diseases in this vulnerable population.

The ultimate goal of the IDEaL research program is to expand knowledge of immune development and functionality in children that will provide foundational information to improve immune health and vaccine efficacy in children from birth through adolescence (defined as birth to less than 18 years of age). The program will support mechanistic, hypothesis-driven studies that focus on defining fundamental aspects of immune development and function in response to vaccines and other prevention strategies, pathogenic infections, commensal microorganisms, allergens, and/or environmental pollutants. Interdisciplinary research teams with expertise in immunology, pediatrics, infectious diseases, vaccinology, and immune-mediated diseases may be established to address areas of interest. It is important to understand the development and function of the immune system using longitudinal assessments, either through establishment and follow-up of a new cohort or by following an established cohort over the course of several years to understand how intrinsic and extrinsic exposures affect immune maturation and functional capabilities. The population of interest for this FOA are infants, children, and adolescents ages birth to less than 18 years, though subsets within this age range can be the focus of a particular application. Applications are expected to be integrated and synergistic, containing Research Projects and Cores connected by a common theme that produce scientific gains beyond those achievable if each project were performed independently. An application may include different pathogens or commensal microbes, vaccines, allergens, or environmental pollutants to investigate common immune pathways or mechanisms; or may analyze different aspects of the immune response to the same vaccine, infection, allergen, or environmental pollutant. Animal studies (small and/or large animal models) may be included to extend or guide mechanistic analyses of human samples; note that HIV research studies that include animal models may only use non-human primates.

Examples of research areas of interest include, but are not limited to:

- Mechanisms regulating the generation and maintenance of T and B cell memory;
- Molecular mechanisms of innate immunity, including trained immunity;
- Effect of the microbiota on host immune development and response;
- Mechanisms of tissue-specific and mucosal immunity;

- Role and mechanisms of action of adjuvants/immune-potentiating molecules or compounds for improving protective immune responses in children;
- Impact of sex differences on innate and adaptive immune development and function;
- Impact of maternal factors on immune system development in early life that include examination of longer-term effects in the child;
- Mechanism by which environmental exposures affect the functionality of the pediatric immune system;
- Mechanisms regulating exhaustion of the immune response to chronic infection or exposure, and impact on vaccine responses;
- Metabolic and/or epigenetic regulation of the pediatric immune response;
- HIV:
    - Key factors impacting the pediatric immune response and efficacy of HIV vaccine candidates and other HIV-prevention strategies;
    - Broadly neutralizing antibody development during pediatric immune maturation;
    - Longitudinal imaging of immune cell dynamics and immune responses to vaccines or other prevention strategies in the pediatric population;
    - Development of mucosal immunity in the context of vaccine/prevention strategies;
    - Studies testing or proposing development of drugs/vaccines to prevent infection that is specific to the pediatric population.

Link to Additional Information: http://grants.nih.gov/grants/guide/rfa-files/RFA-AI-20-078.html

23. Behavioral Health Workforce Education and Training (BHWET) Program for Paraprofessionals, Department of Health and Human Services, Health Resources and Services Administration

Application Deadline: April 12, 2021

The purpose of the BHWET Program for Paraprofessionals is to develop and expand community-based experiential training to increase the supply of students preparing to become peer support specialists and other behavioral health-related paraprofessionals while also improving distribution of a quality behavioral health workforce. A special focus is placed on the knowledge and understanding of the specific concerns of children, adolescents, and transitional-aged youth in high need and high demand areas at risk for behavioral health disorders.

Program Goals

1. Establish relationships with community-based partners (e.g., emergency departments, faith-based organizations, first responders, judicial systems, health centers, social services, community policing organizations, recovery community organizations or other peer-based recovery support organizations to expand and improve access to quality behavioral health services including but not limited to OUD and other SUD prevention, treatment recovery services in high need and high demand areas.
2. Promote collaborative training by utilizing team-based models of care in integrated and interprofessional behavioral health and primary care settings.
3. Recruit a workforce that reflects participation in the institutions' programs of individuals and groups from different racial, ethnic, cultural, geographic, religious, linguistic, and class backgrounds, and different genders and sexual orientations, interested in serving high need and high demand areas.

Program Objectives

1. Increase the number of experiential training sites to promote peer support specialists and other behavioral health-related paraprofessional student/trainee competencies around evidence-supported behavioral health including but not limited to OUD and other SUD prevention and treatment modalities used in integrated and interprofessional team-based practice settings. Experiential placements must include interdisciplinary training of two or more health disciplines using a team-based care approach to provide quality behavioral health services in high need and high demand areas.
2. Enhance didactic and experiential training activities through the development of competencies in primary and integrated team-based trauma-informed care, for peer support specialists and other behavioral health-related paraprofessional students/trainees in Level I pre-service and/or Level II in-service training in a behavioral health-related paraprofessional field.
3. Establish community-based partnerships to ensure participation in the institutions' programs of individuals and groups from different racial, ethnic, cultural, geographic, religious, linguistic, and class backgrounds, and different genders and sexual orientations, opportunities for field placements, community education, career development, and provide job placement services.

4. Promote technology integration in the provision of peer support specialist and other behavioral health-related paraprofessional services and training programs, including utilizing telehealth services, implementing strategies to increase digital health literacy, and offering options for distance learning.
5. Reduce financial barriers for peer support specialists and other behavioral health-related paraprofessionals by providing financial support to trainees in the form of tuition/fees, supplies, and stipends.

Link to Additional Information:
https://grants.hrsa.gov/2010/Web2External/Interface/FundingCycle/ExternalView.aspx?fCycleID=b100dc17-9289-4589-bbfd-0c59065a6f2f


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