

The Division of Science and Research distributes a weekly e-mail update regarding current grant opportunities from a variety of funders, including the National Science Foundation, NASA, National Institute of Health and others. To sign up for alerts, contact [Dr. Jan Taylor](#).

# GRANT OPPORTUNITIES

Division of Science and Research

**The Division of Science and Research now has an Instagram page!** We would love to have pictures of you and your students doing interesting things in the lab or in the field or anywhere you are doing science or even talking about science. These should be candid shots so perfection isn't needed.

Please send a brief description of what you're doing and who is doing it along with the photo. Send your photos to [amanda.ramey@wvresearch.org](mailto:amanda.ramey@wvresearch.org). If you'd like to see what we've already posted, go here: <https://www.instagram.com/wvresearch>.

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## Fulbright Opportunities in Sustainable Development in the Western Hemisphere

- the 2018-19 Core Fulbright U.S Scholar Program competition is now open and accepting applications for awards in [Sustainable Development](#) and [Sustainability](#)! Our organization, the Institute of International Education's Council for International Exchange of Scholars, administers the Fulbright Scholar Program on behalf of the United States Department of State's Bureau of Educational and Cultural Affairs. Applications due by August 1, 2017.

NSF  
NIH  
NASA  
USDA  
DOD

## National Science Foundation

The [Civil Infrastructure Systems \(CIS\)](#) program supports fundamental and innovative research necessary for designing, constructing, managing, maintaining, operating and protecting efficient, resilient and sustainable civil infrastructure systems. Research that recognizes the role that these systems play in societal functioning and accounts for how human behavior and social organizations contribute to and affect the performance of these systems is encouraged. While component-level, subject-matter knowledge may be crucial in many research efforts, this program focuses on the civil infrastructure as a system in which interactions between spatially-distributed components and intersystem connections exist. Thus, intra- and inter-physical, information and behavioral dependencies of these systems are also of particular interest. Full Proposal Window: September 1, 2017 - September 15, 2017.

[Computational and Data-Enabled Science and Engineering \(CDS&E\)](#) - Advanced computational infrastructure and the ability to perform large-scale simulations and accumulate massive amounts of data have revolutionized scientific and engineering disciplines. The goal of the CDS&E program is to identify and capitalize on opportunities for major scientific and engineering breakthroughs through new computational and data analysis approaches. The intellectual drivers may be in an individual discipline or they may cut across more than one discipline in various Directorates. The key identifying factor is that the outcome relies on the development, adaptation, and utilization of one or more of the capabilities offered by advancement of both research and infrastructure in computation and data, either through cross-cutting or disciplinary programs. Full Proposal Window(s): September 1, 2017 - October 31, 2017 for All proposals to the Division of Materials Research; September 1, 2017 - October 2, 2017 for All proposals to the Division of Chemistry - Chemical Theory, Models and Computational Methods; September 1, 2017 - September 15, 2017 for All proposals to the Directorate for Engineering's Division of Civil, Mechanical and Manufacturing Innovation.

The [Design of Engineering Material Systems \(DEMS\)](#) program supports fundamental research intended to lead to new paradigms of design, development, and insertion of advanced engineering material systems. Fundamental research that develops and creatively integrates theory, processing/manufacturing, data/informatics, experimental, and/or computational approaches with rigorous engineering design principles, approaches, and tools to enable the accelerated design and development of materials is welcome. Full Proposal Window: September 1, 2017 - September 15, 2017.

[Documenting Endangered Languages \(DEL\)](#) - This funding partnership between the National Science Foundation (NSF) and the National Endowment for the Humanities (NEH) supports projects to develop and advance knowledge concerning endangered human languages. Made urgent by the imminent death of roughly half of the approximately 7000 currently used languages, this effort aims to exploit advances in information technology to build computational infrastructure for endangered language research. The program supports projects that contribute to data management and archiving, and to the development of the next generation of researchers. Funding can support fieldwork and other activities relevant to the digital recording, documenting, and archiving of endangered languages, including the preparation of lexicons, grammars, text samples, and databases. Funding will be available in the form of one- to three-year senior research grants as well as fellowships from six to twelve month. Full Proposal Deadline Date: September 15, 2017 (Submission Deadline for Senior Research Proposals and Fellowships Only).

The [Dynamics, Control and Systems Diagnostics \(DCSD\)](#) program supports fundamental research on the analysis, measurement, monitoring and control of dynamic systems. The program promotes innovation in the following areas: Modeling: creation of new mathematical frameworks to apply tools of dynamics to physical systems; Analysis: discovery and exploration of structure in dynamic behavior; Diagnostics: dynamic methods that infer system properties from observations; and Control: methods that produce desired dynamic behavior. Full Proposal Window: September 1, 2017 - September 15, 2017.

The [Engineering and Systems Design \(ESD\)](#) program supports fundamental research leading to new engineering and systems design methods and practices for specific global contexts. In particular, ESD seeks intellectual advances in which the theoretical foundations underlying design and systems engineering are operationalized into rigorous and pragmatic methods for a specific context. In addition, the program funds the rigorous theoretical and empirical characterization of new or existing methods for design and systems engineering, identifying in which global contexts and under which assumptions these methods are effective and efficient. Such a global context includes both a domain (such as energy systems, consumer products, cyber-physical systems) and an economic, socio-political, environmental and technological context. Full Proposal Window: September 1, 2017 - September 15, 2017.

The [Engineering for Natural Hazards \(ENH\)](#) program supports fundamental research that advances knowledge for understanding and mitigating the impact of natural hazards on constructed civil infrastructure. Natural hazards considered by the ENH program include earthquakes, windstorms (such as tornadoes and hurricanes), tsunamis, storm surge, and landslides. The constructed civil infrastructure supported by the ENH program includes building systems, such as the soil-foundation-structure-envelope-nonstructural system, as well as the façade and roofing, and other structures, geotechnical, and underground facilities, such as tunnels. While research may focus on a single natural hazard, research that considers civil infrastructure performance over its lifetime in the context of multiple hazards, that is, a multi-hazard approach, is encouraged. Research may integrate geotechnical, structural, and architectural engineering advances with discoveries in other science and engineering fields, such as earth and atmospheric sciences, materials science, mechanics of materials, dynamic systems and control, systems engineering, decision theory, risk analysis, high performance computational modeling and simulation, and social, behavioral, and economic sciences. Multi-disciplinary and international collaborations are encouraged. The ENH program encourages research integrated with knowledge dissemination and activities that can lead to broader societal benefit for reducing the impact of natural hazards on civil infrastructure. Full Proposal Window: September 1, 2017 - September 15, 2017.

[Infrastructure Management and Extreme Events \(IMEE\)](#) - The IMEE program supports fundamental, multidisciplinary research on the impact of hazards and disasters upon civil infrastructure and society. The program is focused upon research on the mitigation of, preparedness for, response to, and recovery from multi-hazard disasters. Community and societal resilience and sustainability are important topics within the research portfolio of IMEE. The program is deeply multidisciplinary, integrating multiple perspectives, methods and results from diverse areas in engineering, social and natural sciences, and computing. Among these are civil, mechanical, transportation and system engineering; sociology, cognitive science and psychology, economics, geography, political science and urban planning; geology, biology and meteorology; and applied computing. Methodological innovations that span multiple, diverse disciplines are strongly encouraged. Full Proposal Window: September 1, 2017 - September 15, 2017.

In order to jumpstart a national innovation ecosystem, NSF has established the [NSF Innovation Corps Teams Program \(NSF I-Corps Teams\)](#). The NSF I-Corps Teams purpose is to identify NSF-funded researchers who will receive additional support - in the form of mentoring and funding - to accelerate innovation that can attract subsequent third-party funding. The purpose of the NSF I-Corps Teams grant is to give the project team access to resources to help determine the readiness to transition technology developed by previously-funded or currently-funded NSF projects. The outcomes of I-Corps Teams projects will be threefold: 1) a clear go or no go decision regarding viability of products and services, 2) should the decision be to move the effort forward, a transition plan for those projects to move forward, and 3) a technology demonstration for potential partners. Full Proposal Window(s): April 1, 2017 - June 15, 2017 and July 1, 2017 - September 15, 2017.

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## National Institutes of Health

**Clinical Studies of Mental Illness Not Involving Clinical Trials (Collaborative R01)** - This Funding Opportunity Announcement (FOA) seeks to support collaborative clinical studies, not involving treatment development, efficacy, or effectiveness trials. Primary areas of focus include mental health genetics, biomarker studies, and studies of mental illnesses (e.g., psychopathology, neurodevelopmental trajectories of psychopathology) also when associated with HIV/AIDS. Applicants should apply to this FOA when two or more sites are needed to complete the study. Accordingly, the collaborating studies share a specific protocol across the sites and are organized as such in order to increase sample size, accelerate recruitment, or increase sample diversity and representation. In studies with a large number of sites, it is expected that one site will be submitted as a coordinating R01 for data management and/or other centralized administration. For a linked set of collaborative R01s, each application has its own Program Director/Principal Investigator (PD/PI). The collaborative R01 program provides a mechanism for cross-R01 coordination, quality control, database management, statistical analysis, and reporting. Application Due Date(s): [Standard dates](#) apply.

**Synthetic Psychoactive Drugs and Strategic Approaches to Counteract Their Deleterious Effects (R21)** - The purpose of this FOA is to support research to deepen our knowledge of the use of synthetic psychoactive drugs, their mechanisms of action, their health effects, and development of prevention strategies and strategies to treat patients in emergency departments and long range treatment. Companion Funding Opportunities are [PAR-14-106 R01](#) Research Project Grant and [PAR-14-104, R03](#) Small Grant Program. Application Due Date(s): [Standard dates](#) apply.

**PsychENCODE: Non-coding Functional Elements in the Human Brain and their Role in the Development of Psychiatric Disorders (U01)** - The objective of this FOA is to support research in the discovery and characterization of the full spectrum of human-specific non-coding functional genomic elements across brain regions, cell types, and developmental time periods to elucidate their role(s) in the molecular pathophysiology of mental illness. It is expected that projects under this FOA will apply unbiased genome-wide approaches, computational methods, and experimental assays to identify and characterize functional genomic elements in both healthy and diseased human brains to correlate findings with development of mental illnesses and outcomes relevant to brain function and dysfunction. Projects should work towards developing comprehensive maps of functional elements, including insulators, enhancers, promoters, silencers, transcription binding factors, non-coding RNAs (e.g., long non-coding RNAs [lncRNAs], microRNAs [miRNAs], piwi-interacting RNAs [piRNAs]), modifications to RNA, RNA spliceforms, long-range chromatin interactions, DNA methylations, etc. Companion Funding Opportunity is [PAR-17-258- Collaborative U01](#) - Research Project – Cooperative Agreements. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): July 6, 2017, June 6, 2018, June 6, 2019.

**NIH Director's Early Independence Awards (DP5)** - The NIH Directors Early Independence Award Program supports exceptional investigators who wish to pursue independent research directly after completion of their terminal doctoral/research degree or clinical residency, thereby forgoing the traditional post-doctoral training period and accelerating their entry into an independent research career. Letter of Intent Due Date(s): August 22, 2017. Application Due Date(s): September 22, 2017.

**NIAMS Rheumatic Diseases Research Resource-based Centers (P30)** - The National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) requests applications for the NIAMS Resource-based Centers Program (P30) for rheumatic diseases research areas within its mission. The Resource-based Centers will provide critical research infrastructure, shared facilities, services, and/or resources to groups of investigators conducting research on rheumatic diseases, enabling them to conduct their independently-funded individual and/or collaborative research projects more efficiently and/or more effectively, with the broad overall goal of accelerating, enriching, and enhancing the effectiveness of ongoing basic, translational, and clinical research and promoting new research within the NIAMS mission. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): October 3, 2017.

**NIH Director's New Innovator Award Program (DP2)** - The [NIH Directors New Innovator Award \(DP2\)](#) supports a small number of early stage investigators of exceptional creativity who propose bold and highly innovative new research approaches that have the potential to produce a major impact on broad, important problems in biomedical and behavioral research. The NIH Director's New Innovator Award complements ongoing efforts by NIH and its Institutes and Centers to fund early stage investigators through R01 grants, which continue to be the major sources of NIH support for early stage investigators. The NIH Directors New Innovator Award is a component of the [High-Risk, High-Reward Research program](#) of the [NIH Common Fund](#). Application Due Date(s): September 8, 2017.

**Developing New Clinical Decision Support to Disseminate and Implement Evidence-Based Research Findings (R18)** - This Funding Opportunity Announcement (FOA) invites R18 grant applications for developing new clinical decision support (CDS) to facilitate the dissemination and implementation of evidence-based research findings. The purposes

of this FOA are to develop new, reliable, valid, and usable CDS from evidence-based research findings and then demonstrate its effectiveness to improve care in clinical practice. Application Due Date(s): [Standard dates](#) apply.

[NIH Director's Transformative Research Awards \(R01\)](#) - The [NIH Director's Transformative Research Award](#) complements NIH's traditional, investigator-initiated grant programs by supporting individual scientists or groups of scientists proposing groundbreaking, exceptionally innovative, original and/or unconventional research with the potential to create new scientific paradigms, establish entirely new and improved clinical approaches, or develop transformative technologies. Little or no preliminary data are expected. Projects must clearly demonstrate the potential to produce a major impact in a broad area of biomedical or behavioral research. The NIH Director's Transformative Research Award is a component of the [High-Risk, High-Reward Research program](#) of the [NIH Common Fund](#). Application Due Date(s): September 15, 2017.

[NIH Director's Pioneer Award Program \(DP1\)](#) - The [NIH Director's Pioneer Award](#) complements NIH's traditional, investigator-initiated grant programs by supporting individual scientists of exceptional creativity who propose pioneering and possibly transforming approaches to addressing major biomedical or behavioral challenges that have the potential to produce an unusually high impact on enhancing health, lengthening life, and reducing illness and disability. To be considered pioneering, the proposed research must reflect substantially different scientific directions from those already being pursued in the investigator's research program or elsewhere. The NIH Director's Pioneer Award is a component of the [High-Risk, High-Reward Research program](#) of the [NIH Common Fund](#). Application Due Date(s): September 1, 2017.

[NICHD Exploratory-Developmental Research Grant \(R21\)](#) - The NICHD Exploratory-Developmental Grant program supports exploratory and developmental research projects that fall within the NICHD mission by providing support for the early and conceptual stages of these projects. These studies may involve considerable risk but may lead to a breakthrough in a particular area, or to the development of novel techniques, agents, methodologies, models, or applications that could have a major impact on a field of biomedical, behavioral, or clinical research. Application Due Date(s): [Standard dates](#) apply.

[Scaling Established Clinical Decision Support to Facilitate the Dissemination and Implementation of Evidence-Based Research Findings \(R18\)](#) - This Funding Opportunity Announcement (FOA) invites R18 grant applications for research projects to scale and spread existing clinical decision support (CDS) to facilitate the dissemination and implementation of evidence-based research findings into clinical practice. The purposes of this FOA are to extend the implementation ("scale") and evaluation of well-established and effective CDS beyond the initial clinical setting or institution in which the CDS was originally developed and implemented, thereby extending the impact on clinical practice. Application Due Date(s): [Standard dates](#) apply.

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## **NASA**

[University Student Research Challenge \(USRC\) – A Pilot Project](#) - Amendment 4 to the NASA ARMD Research Opportunities in Aeronautics (ROA) 2016 NRA has been posted on the NSPIRES site. Through this solicitation the Transformative Aeronautics Concepts Program (TACP) seeks to develop novel concepts with the potential to create new capabilities in aeronautics by stimulating aeronautics research in the student community. TACP will provide students, from accredited U.S. colleges or universities, with grants for aeronautics projects that also raise cost sharing funds using crowdfunding platforms. This challenge, which is being run as a pilot project, seeks students who have an aeronautics-related project idea and have the passion to develop that idea. The project must be relevant to the Aeronautics Research Mission Directorate (ARMD) Strategic Implementation Plan <https://www.nasa.gov/aeroresearch/strategy> and address one of ARMD's six strategic thrusts as they affect aviation. The solicitation goal can be accomplished through project ideas such as advancing the design, developing technology or capabilities in support of aviation, by demonstrating a novel concept, or enabling advancement of aeronautics-related technologies. Notices of Intent (NOIs) are not required for this solicitation. Proposals are due October 16, 2017.

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## **U.S. Department of Agriculture**

[Agriculture and Food Research Initiative - Resilient Agroecosystems in a Changing Climate Challenge Area](#) - The AFRI Resilient Agroecosystems in a Changing Climate Challenge Area supports activities that enable the nation's agriculture and forest lands to adapt to current and future climate conditions (including increased droughts and

other extreme events), maintain or increase production, efficiently use soil and water resources, and improve soil, water and air conditions. Land managers are experiencing more variable weather patterns, especially with regard to water issues such as more intense patterns of droughts and floods, and the lengthening of the growing season over the last three decades. Research results from this challenge area will lead to improved management systems and crop varieties that consider the risks associated with a more variable environment. Another long-term outcome of this challenge area is reducing the environmental impact while maintaining a productive food, feed, fiber, and fuel system. Closing Date: Thursday, July 13, 2017.

[Agriculture and Food Research Initiative - Sustainable Bioenergy and Bioproducts Challenge Area](#) - In FY 2017 NIFA invites applications for the SBEBP Challenge Area Program, and specific program areas are designed to achieve the long term outcome of reducing our nation's dependence on foreign oil and help meet the Energy Independence and Security Act (EISA) of 2007 goal of 36 billion gallons/year of biofuels by 2022. In FY2017, the SBEBP is soliciting applications in the following priority areas: (1) Lignin or nano-cellulosic co-products from biomass feedstocks; and (2) Biomass feedstock genetic development and evaluation. Closing Date: Wednesday, June 28, 2017.

[Agriculture and Food Research Initiative - Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative](#) - In FY 2017, the National Institute of Food and Agriculture (NIFA) requests applications for the AFRI's Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative (ELI) to support: (1) professional development opportunities for K-14 teachers and education professionals; (2) training of undergraduate students in research and extension; and (3) fellowships for pre-doctoral and postdoctoral candidates. Closing Date: Wednesday, June 28, 2017.

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## **Department of Defense**

[Army Research Office Broad Agency Announcement for Basic and Applied Scientific Research](#) - The purpose of this Broad Agency Announcement (BAA) is to solicit research proposals in the engineering, physical, life, and information sciences for submission to the Army Research Office (ARO) for consideration for possible funding. Proposals are expected to be for cutting-edge innovative research that could produce discoveries that would have a significant impact on enabling new and improved Army operational capabilities and related technologies. The specific research areas and topics of interest described in this document should be viewed as suggestive, rather than limiting. ARO is always interested in considering new innovative research concepts of relevance to the Army. Additional information about ARO areas of interest can be found on the ARL website:

<http://www.arl.army.mil/www/default.cfm?page=29>. This BAA is a continuously open announcement valid throughout the period from the date of issuance through 31 March 2022, unless announced otherwise.

[BRICS Part 2](#) - DARPA seeks innovative approaches to the development of engineered Forensic Microbial Systems (FMS) that may be deployed in complex environments to create unique microbial signatures for environmental forensics operations. Proposal Due Date and Time – June 6, 2017, 4:00 PM ET

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