

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 Computational and Information Systems Laboratory is offering **travel grants to students** who are interested in attending the sixth annual National Center for Atmospheric Research Software Engineering Assembly Conference (SEA). The conference will be held at NCAR's Center Green Campus in Boulder, Colorado from April 10-14. This year's theme is "the future of software engineering in academic and research-based organizations". The conference will feature three days of tutorials, and host discussions on topics such as data analysis and visualization, security and compliance, Agile software development, and emerging technology trends. The travel grant will include airfare, lodging, and meals for the entirety of the conference. Those interested in attending the conference can apply for a grant at the travel grant application webpage (<https://www2.cisl.ucar.edu/2017-sea-conference-travel-assistance>). Deadline for application is February 24, 2017.

The Climate and Global Dynamics Laboratory (CGD) at NCAR is offering **travel scholarships for students** interested in attending their CESM Tutorial. CESM is a fully-coupled, community, global climate model that provides state-of-the-art computer simulations of the Earth's past, present, and future climate states. The tutorial is August 14-18. For more information and to request travel assistance, please visit their info page (<http://www.cesm.ucar.edu/events/tutorials/2017/announcement.html> - register as "attendee requesting travel assistance"). Deadline to register is March 4, 2017.

If you have questions, contact ajlauer@ucar.edu.

NSF
NIH
DOE
DOD
NASA

National Science Foundation

The [Plant-Biotic Interactions \(PBI\)](#) program supports research on the processes that mediate beneficial and antagonistic interactions between plants and their viral, bacterial, oomycete, fungal, plant, and invertebrate symbionts, pathogens and pests. This joint NSF-NIFA program supports projects focused on current and emerging model and non-model systems, and agriculturally relevant plants. The program's scope extends from fundamental mechanisms to translational efforts, with the latter seeking to put into agricultural practice insights gained from basic research on the mechanisms that govern plant-biotic interactions. Projects must be strongly justified in terms of fundamental biological processes and/or relevance to agriculture and may be purely fundamental or applied, or include aspects of both perspectives. All types of symbiosis are appropriate, including commensalism, mutualism, parasitism, and host-pathogen interactions. Research may focus on the biology of the plant host, its pathogens, pests or symbionts, interactions among these, or on the function of plant-associated microbiomes. The program welcomes proposals on the dynamics of initiation, transmission, maintenance and outcome of these complex associations, including studies of metabolic interactions, immune recognition and signaling, host-symbiont regulation, reciprocal responses among interacting species and mechanisms associated with self/non self-recognition such as those in pollen-pistil interactions. Explanatory frameworks may include molecular, genomic, metabolic, cellular, network and organismal processes, with projects guided by hypothesis and/or discovery driven experimental approaches. Where appropriate, quantitative modeling in concert with experimental work is encouraged. Overall, the program seeks to support research that will deepen our understanding of the fundamental processes that mediate interactions between plants and the organisms with which they intimately associate and advance the application of that fundamental knowledge to benefit agriculture. Full Proposal Deadline Date: April 21, 2017.

The [NSF-CBMS Regional Research Conferences in the Mathematical Sciences](#) are a series of five-day conferences each of which features a distinguished lecturer delivering ten lectures on a topic of important current research in one sharply focused area of the mathematical sciences. CBMS refers to the Conference Board of the Mathematical Sciences which publicizes the conferences and administers the resulting publications. Support is provided for about 30 participants at each conference. Proposals should address the unique characteristics of the NSF-CBMS conferences, outlined in the Program Description. Full Proposal Deadline Date: April 28, 2017.

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National Institutes of Health

[NINDS CREATE Bio Discovery Track: Optimization in Preparation for Development of Biotechnology Products and Biologics \(U01\)](#) - This Funding Opportunity Announcement (FOA) is dedicated to the discovery of therapeutic Biotechnology Products and Biologics (e.g., peptides, proteins, oligonucleotides, gene therapies, and cell therapies) for disorders that fall under the NINDS mission. It supports the optimization of therapeutic lead(s) showing convincing proof-of-concept. At the end of the funding period, projects that successfully advance through support from this program will have identified a optimized candidate, which has sufficient bioactivity, stability, manufacturability, bioavailability, in vivo efficacy and/or target engagement, and other favorable properties that are consistent with the desired clinical application, and will be ready for entry into the CREATE Bio Development track for further development to enable filing for an Investigational New Drug (IND). Companion Funding Opportunities are [PAR-14-288, UH2/UH3 Phase Innovation Awards Cooperative Agreement](#); [PAR-14-28, U44 Small Business Innovation Research \(SBIR\) Cooperative Agreement – Fast-Track](#) ; and [PAR-14-28, U44 Small Business Innovation Research \(SBIR\) Cooperative Agreement – Fast-Track](#). Application Due Date(s): July 18, 2017.

[Advancing Our Understanding of the Brain Epitranscriptome \(R21\)](#) - The "epitranscriptome" refers to chemical modifications of RNA molecules. RNA modifications in the brain have been reported to regulate the fate and function of both coding and noncoding RNAs and are emerging as a critical element of cellular function. The purpose of this initiative is to stimulate research into the functions of modified RNAs in the brain and in the associated modification proteins that act on RNA (readers, writers, and erasers) that play a role in basic neurobiological and behavioral processes implicated in mental and substance use disorders. Companion Funding Opportunity is [PAR-17-153 R01 Research Project Grant](#). Application Due Date(s): [Standard dates](#) apply.

[NIDCR Prospective Observational or Biomarker Clinical Validation Study Cooperative Agreement \(U01\)](#) - This Funding Opportunity Announcement (FOA) will support, through the cooperative agreement mechanism, investigator-initiated observational studies or biomarker validation studies that require prospective collection of data/biospecimens or continued analysis of data/biospecimens collected as part of a previous cooperative agreement award from NIDCR. Application Due Date(s): First receipt date, April 14, 2017, subsequently, [Standard dates](#) apply.

[CDC's Collaboration with Academia to Strengthen Public Health Workforce Capacity](#) (click on Related Documents tab) - The purpose of this FOA is to advance the educational preparation of public health, medical, and baccalaureate and higher degree nursing students and provide opportunities that strengthen population health and public health practice competencies through innovative approaches which include, but are not limited to: 1) improved integration of public/population health concepts into health profession education, 2) hands-on experience for students and emerging health professionals, as well as faculty development opportunities, working with communities, professionals from related disciplines, and public health partners to address the leading causes of death and illness, 3) specific additional projects funded by CDC programs that provide workforce development opportunities in academic or public health practice settings or that introduce public health careers, and 4) programs that provide fellowships and rotational assignments at CDC's domestic offices, state, tribal, local, and territorial health departments, or in other community-based settings. The overall goal is to create the opportunities for academia to develop qualified, knowledgeable and experienced students and emerging health professionals suitably prepared to serve in governmental public health practice, or able to apply public health concepts in various healthcare or other settings, to collectively meet the challenge of improving the population's health. Due Date for Applications: **03/31/2017**, 11:59 p.m. U.S. Eastern Standard Time, at www.grants.gov.

[Stimulating Peripheral Activity to Relieve Conditions \(SPARC\): Foundational Peripheral Neuroanatomy and Functional Neurobiology in Under-Studied Organs \(U01\)](#) - This NIH Funding Opportunity Announcement (FOA) is part of the Stimulating Peripheral Activity to Relieve Conditions (SPARC) Common Fund program. This FOA solicits applications for support of research to gather critical data and answer critical questions on functional peripheral neuroanatomy

of organs and reveal the organ function controlled by neural circuits. Organs of interest include those where the peripheral neuroanatomy and functional neurobiology of the organ have been understudied, and which are not the subject of existing SPARC funding under [RFA-RM-15-018](#). Letter of Intent Due Date(s): March 3, 2017. Application Due Date(s): April 3, 2017.

[Mechanisms of Disparities in Chronic Liver Diseases and Cancer \(R21\)](#) - The purpose of the initiative is to support multidisciplinary innovative exploratory and developmental research to understand the underlying etiologic factors and the mechanisms that result in disparities in chronic liver diseases and cancer in the US. This FOA utilizes the Research Project Grant (R21) mechanism, and is suitable for early phase, pilot, or exploratory/developmental projects. Investigators who are interested in proposing larger scale, later phase projects based upon substantial preliminary data should submit applications to the companion [FOA PAR-17-151](#) of identical scientific scope which uses the NIH (R01) grant mechanism. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): May 22, 2017, April 4, 2018, April 4, 2019.

[NINDS CREATE Bio Discovery Track: Optimization in Preparation for Development of Biotechnology Products and Biologics \(U44\)](#) - This Funding Opportunity Announcement (FOA) is dedicated to the discovery of therapeutic Biotechnology Products and Biologics (e.g., peptides, proteins, oligonucleotides, gene therapies, and cell therapies) for disorders that fall under the NINDS mission. It supports the optimization of therapeutic lead(s) showing convincing proof-of-concept. At the end of the funding period, projects that successfully advance through support from this program will have identified an optimized candidate, which has sufficient bioactivity, stability, manufacturability, bioavailability, in vivo efficacy and/or target engagement, and other favorable properties that are consistent with the desired clinical application, and will be ready for entry into the CREATE Bio Development track for further development to enable filing for an Investigational New Drug (IND). Companion Funding Opportunities are [PAR-14-286](#), [U01](#) Research Project – Cooperative Agreements; [PAR-14-288](#), [UH2/UH3](#) Phase Innovation Awards Cooperative Agreement; and [PAR-14-289](#), [U44](#) Small Business Innovation Research (SBIR) Cooperative Agreement – Fast-Track. Application Due Date: July 18, 2017.

[Functional Genetics, Epigenetics, and Non-coding RNAs in Substance Use Disorders \(R21\)](#) - Genetic and genomic studies have identified genes and gene variants that may impact the fundamental biological mechanisms underpinning substance use disorders (SUDs). Discovery of these genes/variants, while extremely valuable, is only the first step in understanding the molecular processes that influence SUDs. This Funding Opportunity Announcement (FOA) encourages basic functional genetic and genomic research in two areas: 1. functional validation to determine which candidate genes/variants/epigenetic/non-coding RNA features have an authentic role in SUDs, and 2. detailed elucidation of the molecular pathways and processes modulated by candidate genes/variants, particularly for those genes with an unanticipated role in SUDs. Companion Funding Opportunity is [PA-17-155](#), [R01](#). Application Due Date(s): [Standard dates](#) apply.

[Secondary Data Analyses to Explore NIMH Research Domain Criteria \(R03\)](#) - This FOA seeks applications which propose secondary analyses of existing clinical research datasets to investigate constructs identified in the NIMH's Research Domain Criteria (RDoC) initiative and to test novel hypotheses using the RDoC framework. Application Due Date(s): [Standard dates](#) apply.

[Evaluating the NIDA Standardized Research E-Cigarette in Risk Reduction and Related Studies \(U01\)](#) - The purpose of this Funding Opportunity Announcement (FOA) is to accelerate research evaluating electronic cigarettes (e-cigarettes, electronic nicotine delivery systems, ENDS) as a potential means of reducing the risks associated with combustible tobacco use. This goal will be achieved by funding clinical studies that use the newly-developed NIDA Standard Research E-cigarette (SREC) to examine potential risks and benefits associated with e-cigarette use in current tobacco smokers. Ultimately, this FOA aims to evaluate whether e-cigarettes can reduce the risks associated with combustible tobacco use and to establish the NIDA SREC as a standard to which other e-cigarettes can be compared. Studies submitted to this FOA should examine the effects of the SREC on multiple behavioral and health biomarkers in current tobacco smokers and may include examination of whether e-cigarettes can reduce the negative health impacts of conventional tobacco use, and / or examine their effects on craving and dependence. Funding will be contingent upon the FDA Center for Tobacco Products (CTP) determination that the studies fall under their regulatory jurisdiction. Furthermore, funding will require that CTP accepts the use of the NIDA SREC as an Investigational Tobacco Product (ITP) in the proposed study, or determines that an ITP is not required. Studies funded by this FOA are expected to rapidly increase understanding of whether e-cigarettes reduce the risks associated with tobacco use. Additionally, these studies may provide significant data to inform e-cigarette public health policy decision-making. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): April 24, 2017; April 24, 2018; April 24, 2019.

[Data Science Research: Personal Health Libraries for Consumers and Patients \(R01\)](#) - The National Library of Medicine seeks applications for novel informatics and data science approaches that can help individuals gather, manage and use data and information about their personal health. A goal of this program is to advance research and application by

patients and the research community through broadly sharing the results via publication, and through open source mechanisms for data or resource sharing. Letter of Intent Due Date(s): March 31, 2017; February 16, 2018. Application Due Date(s): May 1, 2017; March 19, 2018.

NCMRR Early Career Research Award (R03) - The National Center for Medical Rehabilitation Research (NCMRR) Early Career Research (ECR) Award (R03) is intended to support both basic and clinical research from rehabilitation scientists who are establishing independent research careers. It cannot be used to support thesis/dissertation research or research conducted by postdoctoral fellows. The research should be focused on one or more of the areas within the biomedical and behavioral mission of NCMRR: pathophysiology and management of chronically injured nervous and musculoskeletal systems; repair and recovery of motor and cognitive function; functional plasticity, adaptation, and windows of opportunity for rehabilitation interventions; rehabilitative strategies involving pharmaceutical, stimulation, neuro-engineering approaches, exercise, motor training, and behavioral modifications; pediatric rehabilitation; secondary conditions associated with chronic disabilities; improved diagnosis, assessment, and outcome measures; and development of orthotics, prosthetics, and other assistive technologies and devices. The NCMRR ECR Award supports different types of projects including secondary analysis of existing data; small, self-contained research projects; development of research methodology; translational research; outcomes research; and development of new technology. Irrespective of the type of project, the intent of the NCMRR ECR Award is for the Program Director(s)/Principal Investigator(s) (PD(s)/PI(s)) to obtain sufficient preliminary data for a subsequent R01 application. Application Due Date(s): April 21, 2017, March 30, 2018, March 29, 2019.

IDeA Networks of Biomedical Research Excellence (INBRE) (P20) - The National Institute of General Medical Sciences (NIGMS) invites applications for Institutional Development Award (IDeA) Networks of Biomedical Research Excellence (INBRE) awards from investigators at biomedical research institutions that award doctoral degrees in the health sciences or sciences related to health or at independent biomedical research institutes with ongoing biomedical research programs funded by the NIH or other Federal agencies within the IDeA eligible states. The purpose of the INBRE program is to augment and strengthen the biomedical research capacity of an IDeA-eligible state. The INBRE program represents a collaborative effort to sponsor research between research intensive institutions and institutes, primarily undergraduate institutions, community colleges, and Tribally Controlled Colleges and Universities (TCCUs), as appropriate. Letter of Intent Due Date(s): March 14, 2017. Application Due Date(s): April 14, 2017; March 27, 2018; March 27, 2019.

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Department of Energy

Plasma Science Facilities - The Fusion Energy Sciences (FES) program in the Office of Science (SC), U.S. Department of Energy (DOE), hereby announces its interest in receiving cooperative agreement proposals for research and operation of, and/or construction of, intermediate-scale facilities for frontier plasma science research. User facilities are sought that can address frontier plasma science questions in multiple research areas identified in the 2015 Frontiers of Plasma Science Workshops report. Specific research areas of interest include: • plasma dynamo (generation and amplification of magnetic fields); • magnetic reconnection (topological changes of the magnetic field lines); • particle acceleration by shocks, turbulence, and/or magnetic reconnection; • turbulent cascade and dissipation of energy in magnetized plasmas; and • formation of coherent structures in magnetized plasmas. Pre-Application Due Date: 03/03/2017 at 5 PM Eastern Time - A Pre-Application is required. Encourage/Discourage Date: 03/17/2017 at 5 PM Eastern Time. Application Due Date: 05/05/2017 at 5 PM Eastern Time.

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Department of Defense

Pandemic Prevention Platform (P3) - DARPA is soliciting innovative research proposals to develop an end-to-end platform capability for preventing a pandemic threat in <60 days. Recent advances in medical countermeasures have formed a strong foundation, enabling the creation of a true end-to-end pandemic prevention platform. However, experience gained from conventional responses to emerging infectious diseases (MERS, SARS, dengue, chikungunya, Ebola) has demonstrated that significant bottlenecks hinder the rapid response to an emerging infectious threat. Current challenges include the ability to rapidly produce virus needed to test and evaluate therapies, to obtain high potency antibodies within the first weeks of an outbreak, or to scale delivery methods into humans to produce protective levels inside the patient. Proposal Abstract Due Date and Time: March 13, 2017 by

12:00 pm ET. Proposal Due Date and Time: May 1, 2017 by 5:00 pm ET. Washington D.C. Proposer's Day, February 22, 2017.

[AFRL-NM Tech Transfer and Education Outreach \(STEM\) Partnership Intermediary Agreement](#) (click Related Documents tab) - The AFRL Directed Energy Directorate (RD) and Space Vehicles Directorate (RV) are interested in receiving proposals under this announcement for multiple funding opportunities in support of the RD and RV Office of Research and Technology Applications (ORTA), herein referred to as AFRL-NM. These opportunities are for Partnership Intermediary Agreement(s) (PIAs) for two topic areas; 1) Technology Transfer (T2) and 2) Education Outreach (STEM). Innovative approaches to accomplish the objectives for these topic areas are of particular interest. Applicants planning on proposing to the baseline PIAs shall submit their proposal by 09 March 2017, not later than 1500 hours Mountain Standard Time (MST). All questions or requests for clarifications are due in writing via email to the Agreements Officer or Agreements Specialist by 23 February 2017 not later than 1500 hours MST. Closing Date for Applications: Feb 08, 2022.

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NASA

[Early Career Faculty \(ECF\)](#) - ECF is focused on supporting outstanding faculty researchers early in their careers as they conduct space technology research of high priority to NASA's Mission Directorates. Accredited U.S. universities are eligible to submit proposals on behalf of their outstanding new faculty members who intend to develop academic careers related to space technology. Notices of Intent Due: March 3, 2017. Proposals Due: March 31, 2017.

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