

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

An interesting article on how to help minority students succeed in STEM – worth reading!  
<http://hechingerreport.org/five-things-american-colleges-need-help-black-latino-students/>

NSF  
NIH  
DOD  
DOE

## National Science Foundation

The [Mind, Machine and Motor Nexus \(M3X\)](#) program supports fundamental research at the intersection of mind, machine and motor. A distinguishing characteristic of the program is an integrated treatment of human intent, perception, and behavior in interaction with embodied and intelligent engineered systems and as mediated by motor manipulation. M3X projects should advance the holistic analysis of cognition and of embodiment as present in both human and machine elements. This work will encompass not only how mind interacts with motor function in the manipulation of machines, but also how, in turn, machine response and function may shape and influence both mind and motor function. The M3X program seeks to support the development of theories, representations, and working models that draw upon and contribute to fundamental understanding within and across diverse fields, including but not limited to systems science and engineering; mechatronics; cognitive, behavioral and perceptual sciences; and applied computing. Research funded through this program is expected to lead to new computable theories and to the physical manifestation of these theories. Full Proposal Window: September 1, 2017 - September 15, 2017.

The NSF [Nanomanufacturing Program](#) supports fundamental research in novel methods and techniques for batch and continuous processes, top-down (addition/subtraction) and bottom-up (directed self-assembly) processes leading to the formation of complex heterogeneous nanosystems. The program supports basic research in nanostructure and process design principles, integration across length-scales, and system-level integration. The Program leverages advances in the understanding of nano-scale phenomena and processes (physical, chemical, electrical, thermal, mechanical and biological), nanomaterials discovery, novel nanostructure architectures, and new nanodevice and nanosystem concepts. It seeks to address quality, efficiency, scalability, reliability, safety and affordability issues that are relevant to manufacturing. To address these issues, the Program encourages research on processes and production systems based on computation, modeling and simulation, use of process metrology, sensing, monitoring, and control, and assessment of product (nanomaterial, nanostructure, nanodevice or nanosystem) quality and performance. Full Proposal Window: September 1, 2017 - September 15, 2017.

The [Operations Engineering \(OE\)](#) program supports fundamental research on advanced analytical methods for improving operations in complex decision-driven environments. Analytical methods include, but are not limited to, deterministic and stochastic modeling, optimization, decision and risk analysis, data science, and simulation. Methodological research is highly encouraged but must be motivated by problems that have potential for high impact in engineering applications. Application domains of particular interest to the program arise in commercial enterprises (e.g., production/manufacturing systems and distribution of goods, delivery of services), the public sector/government (e.g., public safety and security), and public/private partnerships (e.g., health care, environment and energy). Full Proposal Window: September 1, 2017 - September 15, 2017.

The overall goal of the [Structural and Architectural Engineering and Materials \(SAEM\)](#) program is to enable sustainable buildings and other structures that can be continuously occupied and/or operated during the structure's useful life. The SAEM program supports fundamental research for advancing knowledge and innovation in structural and architectural engineering and materials that promotes a holistic approach to analysis and design, construction, operation, maintenance, retrofit, and repair of structures. For buildings, all components including the foundation-

structure-envelope (the façade, curtain-wall, windows, and roofing) and interior systems (flooring, ceilings, partitions walls), are of interest to the program. The SAEM program encourages the integration of research with knowledge dissemination and activities that can lead to broader societal benefit for provision of sustainable structures. Full Proposal Window: September 1, 2017 - September 15, 2017.

The [Systems Science \(SYS\)](#) program supports fundamental research leading to a theoretical foundation for design and systems engineering. In particular, the Systems Science program seeks intellectual advances in which underlying theories (such as probability theory, decision theory, game theory, organizational sociology, behavioral economics or cognitive psychology) are integrated and abstracted to develop explanatory models for design and systems engineering in a general, domain-independent fashion. Ideally, the explanatory models, derived from the underlying theoretical foundations will lead to testable hypotheses. Based on collected evidence supporting or falsifying the hypotheses, new insights are gained allowing the explanatory models to be refined or updated. Full Proposal Window: September 1, 2017 - September 15, 2017.

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## National Institutes of Health

[Short-Term Research Education Program to Increase Diversity in Health-Related Research \(R25\)](#) - The NIH Research Education Program (R25) supports research education activities in the mission areas of the NIH. The goal of this NHLBI R25 program is to support educational activities that enhance the diversity of the biomedical, behavioral, and clinical research workforce in the mission areas of importance to NHLBI. To accomplish the stated goal, this funding opportunity announcement encourages the development of creative educational activities with a primary focus on Research Experiences. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): New Dates - February 19, 2015; September 18, 2015 (resubmissions only); February 18, 2016; September 19, 2016 (resubmissions only); February 18, 2017; September 18, 2017 (resubmissions only), February 20, 2018.

[T32 Training Program for Institutions That Promote Diversity \(T32\)](#) - The purpose of this funding opportunity announcement (FOA) is to enhance the participation of individuals from diverse backgrounds underrepresented in cardiovascular, pulmonary, hematologic and sleep disorders research across the career development continuum. The NHLBI's T32 Training Program for Institutions That Promote Diversity is a Ruth L. Kirschstein National Research Service Award Program intended to support training of pre-doctoral and health professional students and individuals in postdoctoral training institutions with an institutional mission focused on serving health disparity populations not well represented in scientific research, or institutions that have been identified by federal legislation as having an institutional mission focused on these populations, with the potential to develop meritorious training programs in cardiovascular, pulmonary, hematologic, and sleep disorders. The NHLBI's T32 Training Program for Institutions That Promote Diversity is designed to expand the capability for biomedical research by providing grant support to institutions that have developed successful programs that promote diversity and serve health disparity populations and that offer doctoral degrees in the health professions or in health-related sciences. These institutions are uniquely positioned to engage minority and other health disparity populations in research, translation, and implementation of research advances that impact health outcomes, as well as provide health care for these populations. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): New Dates - February 19, 2015; September 18, 2015 (resubmissions only); February 18, 2016; September 19, 2016 (resubmissions only); February 18, 2017; September 18, 2017 (resubmissions only), February 20, 2018.

[Mentored Career Development Award to Promote Faculty Diversity in Biomedical Research \(K01\)](#) - This Funding Opportunity Announcement (FOA) invites applications to enhance the pool of highly trained investigators from diverse backgrounds underrepresented in research. It is targeted toward individuals whose basic, clinical, and translational research interests are grounded in the advanced methods and experimental approaches needed to solve problems related to cardiovascular, pulmonary, and hematologic diseases and sleep disorders in the general and health disparities populations. This FOA invites applications from Institutions with eligible faculty members to undertake special study and supervised research under a mentor who is an accomplished investigator in the research area proposed and has experience in developing independent investigators. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): October 15, 2017 and February 20, 2018.

[Catalyzing Innovation in Late Phase Clinical Trial Design and Statistical Analysis Plans Resource Access \(X01\)](#) - The purpose of this FOA is to provide access to a consultative resource for planning activities for late phase (phase II and beyond) single-site or multi-site investigator-initiated clinical trials that address critical clinical questions within the mission of the National Heart, Lung, and Blood Institute (NHLBI) and that require non-traditional clinical trial designs

with the opportunity for statistical novelty and/or innovation. The FOA will support the development of feasible and well-designed clinical trials utilizing consultative services provided by the Innovative Clinical Trials Resource (ICTR) (N01). Companion Funding Opportunity is RFA-HL-18-008, U34 Planning Cooperative Agreement. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): October 19, 2017 and January 12, 2018.

[Claude D. Pepper Older Americans Independence Centers \(P30\)](#) - This FOA supports applications for Claude D. Pepper Older Americans Independence Centers (OAICs), centers of excellence in geriatrics research and research education to increase scientific knowledge leading to better ways to maintain or restore independence in older persons. The OAIC awards are designed to develop or strengthen awardee institutions programs that focus and sustain progress on a key area in aging research related to the mission of the OAIC program. Letter of Intent Due Date(s): September 19, 2017. Application Due Date(s): October 19, 2017.

[Alcohol-Induced Effects on Tissue Injury and Repair \(R01\)](#) - This Funding Opportunity Announcement (FOA) encourages Research Project Grant (R01) applications to study molecular and cellular mechanisms of tissue injury and repair associated with alcohol use in humans. Excessive alcohol consumption has the potential to adversely affect multiple organ systems including the liver, brain, heart, pancreas, lung, kidney, endocrine and immune systems, as well as bone and skeletal muscle. In addition, there is accumulating evidence that long term alcohol consumption is associated with reduced host capacity for recovery and repair following trauma. The mechanisms for these alcohol-induced effects on tissue injury and repair are currently not fully understood. NIAAA is especially interested in integrative research that elucidates alcohols effects on complex mechanisms of injury and repair that are either common or specific to each organ system. This FOA also encourages the study of alcohols effect on stem cells, embryonic development, and regeneration. Also encourages are studies on molecular and cellular actions of moderate alcohol consumption. A better understanding of these underlying mechanisms may provide new avenues for developing more effective and novel approaches for prognosis, diagnosis, intervention, and treatment of alcohol-induced organ damage. Companion Funding Opportunity is [PA-17-296, R21 Exploratory/Developmental Grant](#). Application Due Date(s): [Standard dates](#) apply.

[AHRQ National Research Service Award \(NRSA\) Institutional Research Training Grant \(T32\)](#) - The Agency for Healthcare Research and Quality (AHRQ) will award National Research Service Award (NRSA) Institutional Research Training Grants (T32) to eligible domestic institutions to enhance pre-doctoral and postdoctoral research training and ensure that a diverse and highly trained workforce is available and committed to the generation, translation and dissemination of new scientific evidence and analytical tools that will be used to improve health care delivery in the United States. Research training programs will incorporate didactic, research and career development elements to prepare individuals for careers that will have a significant impact on the health care needs of the Nation. Letter of Intent Due Date(s): July 10, 2017. Application Due Date(s): September 12, 2017.

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## **Department of Defense**

[FY17 Peer Reviewed Cancer Research Program \(PRCRP\)](#) - The goal of the PRCRP is to improve quality of life by decreasing the impact of cancer on active duty Service members, their families, and the American public. The PRCRP is charged by Congress with the mission to investigate cancer risks and knowledge gaps that may be relevant to active duty Service members, their families, other military beneficiaries and the American public. There are two award mechanisms: Idea Award with Special Focus and Translational Team Science Award. Pre-Application (Preproposal): June 30, 2017 - Preproposal is required; Application submission is by invitation only. Application: September 28, 2017.

[Fiscal Year 2017 \(FY17\) Gulf War Illness Research Program \(GWIRP\)](#) is currently accepting applications for four award mechanisms. The GWIRP challenges the scientific community to design high-impact research that will provide a better understanding of the pathobiology underlying GWI, identify objective markers for improved diagnosis, and develop treatment and healthcare strategies for the complex of GWI symptoms. The GWIRP's vision is to make a significant impact on GWI and improve the health and lives of affected Veterans and their families. Biorepository Resource Network Award, Clinical Consortium Award, Investigator-Initiated Focused Research Award, and Qualitative Research Award all have the following due dates. Pre-Application: June 30, 2017. Invitation to Submit an Application: August 2017. Invited Application: September 21, 2017.

[DoD Tick-Borne Disease Idea Award and DoD Tick-Borne Disease Investigator-Initiated Research Award](#) (click on Related Documents tab) - The TBDRP's vision is to prevent the occurrence, better diagnose, and resolve or minimize the impact of Lyme disease and other tick-borne illnesses, with emphasis on burden of disease. The TBDRP's mission is to support research to understand the pathogenesis of Lyme disease and other tick-borne illnesses and to deliver

innovative solutions to prevent, better diagnose, and treat their manifestations for the benefit of military Service members and the American public. Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), July 5, 2017. Invitation to Submit an Application: August 23, 2017. Application Submission Deadline: 11:59 p.m. ET, October 11, 2017.

[FY17 Tuberous Sclerosis Complex Research Program \(TSCRCP\)](#) - The mission of the FY17 TSCRCP is to fund pioneering and transformative science that promotes new discoveries in TSC, from mechanistic insights to clinical application. Within this context, the FY17 TSCRCP encourages applications to address one or more of the following Focus Areas: • Understanding phenotypic heterogeneity in TSC; • Gaining a deeper knowledge of TSC signaling pathways and the cellular consequences of TSC deficiency; • Improving TSC disease models; • Developing clinical biomarkers for TSC; and • Facilitating therapeutics and clinical trials research. If the proposed research project does not address one or more of the FY17 TSCRCP Focus Areas, justification that the proposed research project addresses an important problem or unmet need related to TSC research and/or patient care should be provided. There are three award mechanisms: Exploration Hypothesis Development Award; Idea Development Award; and Clinical Translational Research Award. Pre-Application: July 11, 2017. Application: July 27, 2017.

The mission of the FY17 DoD Prostate Cancer Research Program (PCRP) is to find and fund research that will lead to the elimination of death from prostate cancer and enhance the well-being of men experiencing the impact of the disease. Specifically, the PCRP seeks to promote highly innovative, groundbreaking research; high-impact research with near-term clinical relevance; multidisciplinary, synergistic research; translational studies to support the fluid transfer of knowledge between bench and bedside; research on patient survivorship and quality of life; the next generation of prostate cancer investigators through mentored research; and research on disparities in the incidence and mortality of prostate cancer. There are seven award mechanisms: [Health Disparity Research Award](#) and [Impact Award](#) (Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), July 7, 2017; Application Submission Deadline: 11:59 p.m. ET, September 28, 2017); [Idea Development Award](#) (Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), July 14, 2017; Application Submission Deadline: 11:59 p.m. ET, October 26, 2017); [Clinical Consortium Award](#), and [Pathology Resource Network Award](#) (Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), August 24, 2017; Application Submission Deadline: 11:59 p.m. ET, September 7, 2017); [Early Investigator Research Award](#) and [Physician Research Award](#) (Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), July 27, 2017; Application Submission Deadline: 11:59 p.m. ET, August 10, 2017; Confidential Letters of Recommendation Submission Deadline: 5:00 p.m. ET, August 15, 2017). All these are on Grants.gov; click on Related Documents tabs.

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## Department of Energy

[Opportunity Notice for Partners to Assist NETL in Adapting CCSI Tool Set](#) - The National Energy Technology Laboratory (NETL) has significant expertise in the development of rigorous process models and modeling for the advancement and acceleration of the commercialization of carbon capture process systems. A large part of the effort is the Carbon Capture Simulation Initiative (CCSI) [Reference 1]. The computational tools and multi-scale modeling techniques comprising the CCSI Toolset can be broadly applied for the development of a wide variety of technologies well beyond carbon capture including chemicals production, petroleum refining, natural gas processing and biofuel production. NETL is seeking to undertake the development of rigorous process sub-models for the previously mentioned technologies and a framework for integrating them so that a hybrid, post-combustion CO<sub>2</sub> capture process applied to the flue gas of a typical Once-Through Steam Generator (OTSG) can be developed. To complement its existing expertise and capabilities, NETL is seeking one or more partners who can assist in the following Tasks: Task 1. Models for amine scrubbing and Task 2. Membrane Model. Responses to this Opportunity Notice are due no later than 8:00 AM EDT June 21, 2017.

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