

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 deadline for applications to present a poster during the **WVU Institute of Water Security & Science's (IWSS) Spring Symposium** is quickly approaching. Attendees (including graduate and undergraduate students) are invited to submit a proposal for the symposium's poster session. To apply, please complete the application ([IWSS_PosterPresentationApp.pdf](#)) and return to Laura Tinney (laura.tinney@mail.wvu.edu) by **December 19** (extended from December 12). Applications will be reviewed and notifications of acceptance will be made by January 10, 2017.

Also, please save the date: **Tuesday, February 28, 2016 (12:00pm – 7:00pm)**, for the IWSS Spring Symposium, which will offer networking opportunities between the water community as well as with representatives from industry, federal and state agencies, partner institutions, the private sector, and others. Focus of the symposium will include West Virginia water resources history, present conditions, and current and future needs. We anticipate an information packed networking opportunity that will enrich attendees' programs and initiatives, and facilitate broad multi-disciplinary collaborations.

Lunch will be provided. Registration and additional information about the symposium will be forthcoming. We encourage faculty to share this information with students that may wish to present posters.

Want apply for an award with **NSF INCLUDES**, a big idea for broadening STEM participation? Looking to learn about how NSF INCLUDES will work to facilitate partnerships, communication and cooperation to broaden participation in science and engineering? Please join us for one of our webinars with interactive text Q&A Dec. 16, 2016 at 1 p.m. (EST) and Jan. 12, 2017 at 1 p.m. (EST).

NSF
NIH
DOE
DOD
NASA

National Science Foundation

The **Decision, Risk and Management Sciences** program supports scientific research directed at increasing the understanding and effectiveness of decision making by individuals, groups, organizations, and society. Disciplinary and interdisciplinary research, doctoral dissertation research improvement grants (DDRIGs), and workshops are funded in the areas of judgment and decision making; decision analysis and decision aids; risk analysis, perception, and communication; societal and public policy decision making; management science and organizational design. The program also supports small grants that are time-critical (Rapid Response Research - RAPID) and small grants that are high-risk and of a potentially transformative nature (EARly-Concept Grants for Exploratory Research - EAGER). For detailed information concerning these two types of grants, please review Chapter II.D of the [NSF Grant Proposal Guide](#). Full Proposal Target Date: January 18, 2017.

The **Economics** program supports research designed to improve the understanding of the processes and institutions of the U.S. economy and of the world system of which it is a part. This program also strengthens both empirical and theoretical economic analysis as well as the methods for rigorous research on economic behavior. It supports research in almost every area of economics, including econometrics, economic history, environmental economics, finance, industrial organization, international economics, labor economics, macroeconomics, mathematical economics, and public finance. The Economics program welcomes proposals for individual or multi-investigator research projects, doctoral dissertation improvement awards, conferences, workshops, symposia, experimental research, data collection and dissemination, computer equipment and other instrumentation, and research experience for undergraduates. The program places a high priority on interdisciplinary research. Investigators

are encouraged to submit proposals of joint interest to the Economics Program and other NSF programs and NSF initiative areas. The program places a high priority on broadening participation and encourages proposals from junior faculty, women, other underrepresented minorities, Research Undergraduate Institutions, and EPSCoR states. The Doctoral Dissertation Research Improvement Grants funding opportunity is designed to improve the quality of dissertation research. DDRIG awards provide funds for items not normally available through the student's university such as enabling doctoral students to undertake significant data-gathering projects and to conduct field research in settings away from their campus. DDRIGs do not provide cost-of-living or other stipends or tuition. Outstanding DDRIG proposals specify how the knowledge to be created advances economics science. Full Proposal Target Date: January 18, 2017.

The Directorate for Computer and Information Science and Engineering (CISE) has created the [Expeditions in Computing \(Expeditions\)](#) program to provide the CISE research and education community with the opportunity to pursue ambitious, fundamental research agendas that promise to define the future of computing and information. In planning Expeditions projects, investigators are encouraged to come together within or across departments or institutions to combine their creative talents in the identification of compelling, transformative research agendas that promise disruptive innovations in computing and information for many years to come. Full Proposal Deadline Date: January 18, 2017.

In FY 2017, NSF is continuing a program aligned with the [Improving Undergraduate STEM Education \(IUSE\) framework: REvolutionizing engineering and computer science Departments](#). This funding opportunity enables engineering and computer science departments to lead the nation by successfully achieving significant sustainable changes necessary to overcome longstanding issues in their undergraduate programs and educate inclusive communities of engineering and computer science students prepared to solve 21st-century challenges. Full Proposal Deadline Date: January 18, 2017.

[Research Coordination Networks \(RCN\)](#) - The goal of the RCN program is to advance a field or create new directions in research or education by supporting groups of investigators to communicate and coordinate their research, training and educational activities across disciplinary, organizational, geographic and international boundaries. RCN provides opportunities to foster new collaborations, including international partnerships, and address interdisciplinary topics. Innovative ideas for implementing novel networking strategies, collaborative technologies, and development of community standards for data and meta-data are especially encouraged. RCN awards are not meant to support existing networks; nor are they meant to support the activities of established collaborations. RCN awards do not support primary research. RCN supports the means by which investigators can share information and ideas, coordinate ongoing or planned research activities, foster synthesis and new collaborations, develop community standards, and in other ways advance science and education through communication and sharing of ideas. The following targeted track within the RCN programs is intended to foster linkages between BIO and HER: RCN-UBE: The Undergraduate Biology Education track focuses on any topic likely to lead to improved participation, learning, or assessment in undergraduate biology education and follows the same guidelines outlined below for the general RCN program. Full Proposal Deadline Date: January 18, 2017 for RCN UBE & UBE Incubator Track. Full Proposal Accepted Anytime for General (non-targeted) RCN proposals. These proposals should be submitted to a particular program according to the program's submission dates. PIs are encouraged (for CISE required) to discuss suitability of an RCN topic with the P.O.s that manage the appropriate program.

The [Science of Learning](#) program supports potentially transformative basic research to advance the science of learning. The goals of the SL Program are to develop basic theoretical insights and fundamental knowledge about learning principles, processes and constraints. Projects that are integrative and/or interdisciplinary may be especially valuable in moving basic understanding of learning forward but research with a single discipline or methodology is also appropriate if it addresses basic scientific questions in learning. The possibility of developing connections between proposed research and specific scientific, technological, educational, and workforce challenges will be considered as valuable broader impacts, but are not necessarily central to the intellectual merit of proposed research. The program will support research addressing learning in a wide range of domains at one or more levels of analysis including: molecular/cellular mechanisms; brain systems; cognitive affective, and behavioral processes; and social/cultural influences. The program supports a variety of methods including: experiments, field studies, surveys, secondary-data analyses, and modeling. Full Proposal Deadline Date: January 18, 2017.

[Training-based Workforce Development for Advanced Cyberinfrastructure \(CyberTraining\)](#) - The overarching goal of this program is to prepare, nurture and grow the national scientific workforce for creating, utilizing, and supporting advanced cyberinfrastructure (CI) that enables cutting-edge science and engineering and contributes to the Nation's overall economic competitiveness and security. For the purpose of this solicitation, advanced CI is broadly defined as the resources, tools, and services for advanced computation, data handling, networking and security. The need for such workforce development programs are highlighted by the (i) National Strategic Computing Initiative announced in 2015 ([NSCI](#)), which is co-led by NSF and aims to advance the high-performance computing ecosystem and develop work-

force essential for scientific discovery; (ii) 2016 National Academies' report on [Future Directions for NSF Advanced Computing Infrastructure to Support U.S. Science and Engineering in 2017-2020](#); and (iii) [Federal Big Data Research and Development Strategic Plan](#), which seeks to expand the community of data-empowered experts across all domains. This solicitation calls for developing innovative, scalable training programs to address the emerging needs and unresolved bottlenecks in scientific and engineering workforce development of targeted, multidisciplinary communities, at the postsecondary level and beyond, leading to transformative changes in the state of workforce preparedness for advanced CI in the short and long terms. A primary goal is to broaden CI access and adoption by (i) increasing or deepening accessibility of methods and resources of advanced CI and of computational and data science and engineering by a wide range of institutions and scientific communities with lower levels of CI adoption to date; and (ii) harnessing the capabilities of larger segments of diverse underrepresented groups. Proposals from and in partnership with the aforementioned communities are especially encouraged. For student training, a key concern is not to increase the time to degree; hence the emphasis shall be on out-of-class, informal training. Full Proposal Deadline Date: January 18, 2017.

The [Division of Integrative Organismal Systems \(IOS\)](#) supports research aimed at understanding why organisms are structured the way they are and function as they do. Proposals should focus on organisms as a fundamental unit of biological organization. Principal Investigators (PIs) are encouraged to apply systems approaches that will lead to conceptual and theoretical insights and predictions about emergent organismal properties. Areas of inquiry include, but are not limited to, developmental biology and the evolution of developmental processes, nervous system development, structure, and function, physiological processes, functional morphology, symbioses, interactions of organisms with biotic and abiotic environments, and animal behavior. Preliminary Proposal Deadline Date: January 19, 2017. Full Proposal Deadline Date: August 4, 2017.

[Spectrum Efficiency, Energy Efficiency, and Security \(SpecEES\): Enabling Spectrum for All](#) - The National Science Foundation's Directorates for Engineering (ENG) and Computer and Information Science and Engineering (CISE) are coordinating efforts to identify bold new concepts to significantly improve the efficiency of radio spectrum utilization while addressing new challenges in energy efficiency and security, thus enabling spectrum access for all users and devices, and allowing traditionally underserved Americans to benefit from wireless-enabled goods and services. The SpecEES program solicitation (pronounced "SpecEase") seeks to fund innovative collaborative research that transcends the traditional boundaries of existing programs. Full Proposal Deadline Date: January 19, 2017.

[Transdisciplinary Research In Principles Of Data Science \(TRIPODS\)](#) aims to bring together the statistics, mathematics, and theoretical computer science communities to develop the theoretical foundations of data science through integrated research and training activities. Phase I, described in this solicitation, will support the development of small collaborative Institutes. Phase II (to be described in an anticipated future solicitation, subject to availability of funds) will support a smaller number of larger Institutes, selected from the Phase I Institutes via a second competitive proposal process. All TRIPODS Institutes must involve significant and integral participation by all three of the aforementioned communities. Letter of Intent Window: January 4, 2017 - January 19, 2017. Full Proposal Window: March 1, 2017 - March 15, 2017. A copy of the webinar on this solicitation can be found here: https://www.nsf.gov/events/event_summ.jsp?cntn_id=190268&org=CISE

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National Institutes of Health

[Frontotemporal Degeneration FTD Sequencing Consortium: Discovery, replication and validation \(UG3/UH3\)](#) - The purpose of this FOA is to support the genetic discovery, replication and validation of disease causing mutations, risk variants and genetic modifiers which contribute to the pathophysiology, proteinopathies and clinical heterogeneity representative of the neurological syndromes that are classified under the broad spectrum of Frontotemporal Degeneration (FTD). The FTD Sequencing Consortium FOA will support whole genome sequencing, replication and functional variant validation studies of FTD case/control and family-based cohorts identified through clinical diagnosis or autopsy confirmation. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date is February 10, 2017.

The purpose of the [NCI Predoctoral to Postdoctoral Fellow Transition Award \(F99/K00\)](#) is to encourage and retain outstanding graduate students who have demonstrated potential and interest in pursuing careers as independent cancer researchers. The award will facilitate the transition of talented graduate students into successful cancer research post-doctoral appointments, and provide opportunities for career development activities relevant to their long-term career goals of becoming independent cancer researchers. Letter of Intent Due Date is January 17, 2017. Application Due Date is February 17, 2017.

Potential Effects of Metformin on Aging and Age-Related Conditions: Small-Scale Clinical Studies and Secondary Analysis of Controlled Clinical Studies (R01) - Data from clinical studies of metformin in a variety of patient populations suggest that it may have other effects, besides being an antihyperglycemic agent, which warrant further attention in translational aging research. The objective of this FOA is to support research projects (R01), including small-scale physiologic studies in humans or secondary analyses of data and/or stored biospecimens from controlled clinical intervention studies, to increase our understanding of the clinical translational potential of metformin to delay deleterious aging changes or to extend healthy human life span. This includes identification of specific populations particularly likely to benefit from treatment, and/or obtaining information on metformin's human physiologic and cellular effects that would be useful in identifying novel molecular targets. Application Due Date(s): [Standard dates](#) apply.

Novel Analytical Approaches for Metabolomics Data (R03) - The purpose of this small research grant Funding Opportunity Announcement (FOA) is to foster collaboration between computational scientists, metabolomics experts, and biomedical researchers in developing, piloting, and/or validating novel bioinformatic approaches that address current analytical hurdles in metabolomics data. A goal of providing powerful approaches that will be useful to biomedical researchers, as well as bioinformaticians, is particularly encouraged. Projects are not intended to supplement ongoing metabolomics analyses, but to provide a tool for broader use by the biomedical research community. Projects are expected to use existing, publicly available metabolomics data and complement the efforts and resources of the Common Fund Metabolomics Program. Letter of Intent Due Date is January 14, 2017. Application Due Date is February 14, 2017.

Shared Instrumentation Grant (SIG) Program (S10) - The Shared Instrument Grant (SIG) Program encourages applications from groups of NIH-supported investigators to purchase or upgrade a single item of expensive, specialized, commercially available instruments or integrated systems that cost at least \$50,000. There is no maximum price requirement; however, the maximum award is \$600,000. Types of instruments supported include, but are not limited to: X-ray diffractometers, mass and nuclear magnetic resonance (NMR) spectrometers, DNA and protein sequencers, biosensors, electron and light microscopes, cell sorters, and biomedical imagers. Application Due Date(s): May 31, 2017.

Shared Instrumentation for Animal Research (SIFAR) Grant Program (S10) - The Shared Instrumentation for Animal Research (SIFAR) Grant Program encourages applications from groups of NIH-funded investigators to purchase or upgrade scientific instruments necessary to carry out animal experiments in all areas of biomedical research supported by the NIH. Applicants may request clusters of commercially available instruments configured as specialized integrated systems or as series of instruments to support a thematic workflow in a well-defined area of research using animals or related materials. Priority will be given to specialized clusters of instruments and to uniquely configured systems to support innovative and potentially transformative investigations. Requests for a single instrument will be considered only if the instrument is to be placed in a barrier facility. This Funding Opportunity Announcement (FOA) supports requests for state-of-the-art commercially available technologies needed for NIH-funded research using any vertebrate and invertebrate animal species. It is expected that the use of the awarded instruments will enhance the scientific rigor of animal research and improve the reproducibility of experimental outcomes. One item of the requested instrumentation must cost at least \$50,000. No instrument in a cluster can cost less than \$20,000. There is no maximum price requirement; however, the maximum award is \$750,000. Application Due Date(s): May 31, 2017.

High-End Instrumentation (HEI) Grant Program (S10) - The High-End Instrumentation (HEI) Grant Program encourages applications from groups of NIH-supported investigators to purchase or upgrade a single item of expensive, specialized, commercially available instruments or integrated systems that cost at least \$600,001. The maximum award is \$2,000,000. Types of instruments supported include, but are not limited to: X-ray diffraction systems, nuclear magnetic resonance (NMR) and mass spectrometers, DNA and protein sequencers, biosensors, electron and confocal microscopes, cell-sorters, and biomedical imagers. Application Due Date(s): May 31, 2017.

Innovations for Healthy Living - Improving Population Health and Eliminating Health Disparities (R43/R44) - This Funding Opportunity Announcement (FOA) invites eligible United States small business concerns (SBCs) to submit Small Business Innovation Research (SBIR) grant applications that propose to develop a product, process or service for commercialization with the aim of reducing disparities in healthcare access and health outcomes and in preventing disease and improving health in one or more NIH-defined health disparity population group(s). Appropriate technologies should be effective, affordable, culturally acceptable, and deliverable to racial/ethnic minorities, low-income and rural populations. Companion Funding Opportunity is [RFA-MD-17-002](#), [R41/R42](#) Small Business Technology Transfer (STTR) Grant - Phase I, Phase II, and Fast-Track. Letter of Intent Due Date(s): January 22, 2017. Application Due Date(s): February 22, 2017.

Increasing the Use of Medications for the Treatment of Alcohol Use Disorders (R01) - This Funding Opportunity Announcement (FOA) encourages health services research designed to increase the public health impact of Food and

Drug Administration (FDA)-approved pharmacotherapies for the treatment of alcohol use disorder. Significant progress is needed in developing generalizable, scalable, cost-effective strategies to move these evidence-based interventions into the mainstream of alcohol use disorder treatment, in both general medical and specialty care settings. The National Institute on Alcohol Abuse and Alcoholism (NIAAA) seeks applications to conduct hypothesis-driven research to identify effective methods for increasing the utilization of currently-available medications, by addressing their acceptability (to prescribers and patients), perceived effectiveness, affordability, and feasibility of use within existing care delivery systems. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): [Standard dates](#) apply.

[NIBIB Biomedical Technology Resource Centers \(P41\)](#) - This Funding Opportunity Announcement (FOA) encourages grant applications for Biomedical Technology Resource Centers (BTRCs). BTRCs are national resource centers for conducting research and development on new technologies that are driven by the needs of basic, translational, and/or clinical researchers. BTRCs also make their technologies available to other investigators, train members of the research community in the use of the technologies, and disseminate the technologies broadly. Letter of Intent Due Date(s): Six weeks prior to the application due date. Application Due Date(s): [Standard dates](#) apply.

[Eradication of HIV-1 from Central Nervous system Reservoirs \(R01\)](#) - This Funding Opportunity Announcement (FOA) invites research grant applications studying mechanisms of HIV-1 persistence and eradication strategies specifically focused on the central nervous system (CNS) in the context of viral suppression. Basic and translational research in domestic and international settings are of interest. Multidisciplinary research teams and collaborative alliances are encouraged but not required. Application Due Date(s): [Standard dates](#) apply.

The purpose of the [FDA \(R13\) Scientific Conference Grant Program](#) is to facilitate the provision of federal financial assistance in support of small conferences and scientific meetings clearly aligned with the FDA mission. The FDA recognizes the value of supporting high quality, small conferences and scientific meetings relevant to its mission and to the public health. A small conference or scientific meeting is defined as a symposium, seminar, workshop, or any formal meeting, whether conducted face-to-face or virtually to exchange information and explore a defined subject, issue, or area of concern impacting the public's health within the scope of the FDA's mission. Permission to submit a conference grant application does not assure funding or funding at the level requested. FDA will not issue a conference grant award unless it can be issued before the conference start date. Letter of Intent Due Date(s): 8 weeks prior to the selected application due date. Application Due Date(s): April 12, 2017 and October 12, 2017 by 11:59 PM Eastern Time; April 12, 2018 and October 12, 2018 by 11:59 PM Eastern Time; and April 12, 2019 and October 11, 2019 by 11:59 PM Eastern Time.

[Development of Psychosocial Therapeutic and Preventive Interventions for Mental Disorders \(R33\)](#) - The purpose of this Funding Opportunity Announcement (FOA) is to support the efficient pilot testing of novel psychosocial therapeutic and preventive interventions for mental disorders in adults and children, using an experimental therapeutics approach. Under this FOA, trials must be designed so that results, whether positive or negative, will provide information of high scientific utility and will support go/no-go decisions about further development or testing of the intervention. This FOA supports the development and testing of innovative psychosocial intervention approaches where the target and/or the intervention strategy are novel. Targets might include, but are not limited to, potentially modifiable behavioral, cognitive, affective and/or interpersonal factors or processes, neural circuits or neural activity subserving specific behaviors or cognitive processes, and/or other neurobiological mechanisms associated with risk for, causation of, or maintenance of a mental disorder. Eligible psychosocial intervention strategies might include in-person or technology-assisted delivery, provided the target and/or the intervention strategy is novel. This FOA supports the development and testing of novel psychosocial interventions, as defined above, as monotherapies or as augmentations to standard treatment. Support will be provided for up to 3 years for studies to replicate previous target engagement findings, and relate change in the intervention target/mechanism to clinical benefit. Ultimately, this FOA is intended to speed the translation of emerging basic science findings of mechanisms and processes underlying mental disorders into novel interventions that can be efficiently tested for their promise in restoring function and reducing symptoms for those living with mental disorders, or for preventing mental disorders among those at risk. Companion Funding Opportunities are [RFA-MH-17-600, R61/R33 Exploratory/Developmental Phased Award, RFA-MH-16-602, R33 Exploratory/Developmental Grants Phase II, RFA-MH-17-604 R61/R33 Exploratory/Developmental Phased Award, RFA-MH-17-608 R01 Research Project Grant, RFA-MH-17-610 Collab R01 Research Project Grant, RFA-MH-17-612 R34 Planning Grant, and RFA-MH-17-614 R01 Research Project Grant](#). Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): February 15, 2017; June 14, 2017; October 17, 2017; February 14, 2018; June 15, 2018; October 15, 2018.

[NIMH Short Courses for Mental Health-Related Research Education \(R25\)](#) - The NIH Research Education Program (R25) supports research education activities in the mission areas of the NIH. The over-arching goal of this NIMH R25 program

is to support educational activities that complement and/or enhance the training of a workforce to meet the nations biomedical, behavioral and clinical mental health-related research needs. Companion Funding Opportunities are [PAR-15-145](#), [R25](#) Education Projects, [PAR-17-080](#), [R25](#) Education Projects, and [PAR-17-081](#), [R25](#) Education Projects. Letter of Intent Due Date(s): 30 days before the application due date. Application Due Date(s): May 24, 2017; May 24, 2018; May 24, 2019.

[Competitive Collaborative Projects for Human Islet Biology \(UC4\)](#) - This Funding Opportunity Announcement solicits applications for collaborative research projects that will enhance the goals of the Human Islet Research Network (HIRN; www.hirnetwork.org). The HIRN is a collaborative program consisting of multiple related but distinct research consortia focused around two common goals: increasing our understanding of how human beta cells are lost in Type 1 Diabetes (T1D), and finding innovative strategies to protect or replace functional beta cell mass in diabetic patients. Applicants to this FOA will be expected to lend unique perspectives and novel approaches to the network, and will be expected to pursue experiments that will be consistent with HIRN's continuing emphasis on studies that elucidate key aspects of human biology and physiology. Letter of Intent Due Date(s): February 23, 2017. Application Due Date(s): March 23, 2017.

[NIDCR Award for Sustaining Outstanding Achievement in Research \(SOAR\) \(R35\)](#) - The objective of the NIDCR Award for Sustaining Outstanding Achievement in Research (SOAR) is to provide longer-term support to NIDCR-funded investigators, who are in their mid-career stage, and have outstanding records of research productivity, mentorship and professional service to the research community. It is expected that the SOAR Award will propel the investigator along this career trajectory and allow him/her to embark on ambitious longer-term projects of extraordinary potential within the mission of NIDCR. This award supports research projects for up to eight years. Letter of Intent Due Date(s): March 1, 2017. Application Due Date(s): March 30, 2017.

[Moving Beyond Standard Assessments: Applying Novel Tools to Assess Human Placental Structure and Function in Real Time \(R01\)](#) - This Funding Opportunity Announcement (FOA) invites grant applications that use novel approaches for the development of safe, real-time, non-invasive (or minimally invasive), in vivo methods to assess the development and function of the human placenta across pregnancy. Companion Funding Opportunity is [RFA-HD-18-004](#), [R21](#) Exploratory/Developmental Grant. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): March 31, 2017.

[Tobacco Use and HIV in Low and Middle Income Countries \(R01\)](#) - The purpose of this funding opportunity announcement (FOA) is to encourage research focused on tobacco use and human immunodeficiency virus (HIV) infection in low and middle income countries (LMICs). In particular, applications are encouraged that focus on the development and evaluation of tobacco cessation interventions tailored to HIV positive populations, including those with co-morbidities such as tuberculosis (TB), in low-resource settings in LMICs. This FOA provides funding for research planning, intervention delivery, and follow-up activities. Companion Funding Opportunity is [PAR-17-086](#), [R21](#) Exploratory/Developmental Grant. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): April 4, 2017; November 1, 2017; April 4, 2018; November 1, 2018; April 4, 2019; November 1, 2019.

The purpose of this Funding Opportunity Announcement (FOA) is to seek applications for the [Developmental Centers for Interdisciplinary Research in Benign Urology Program \(P20\)](#). The intent of this Program is to further advance research in benign urology by building research teams and facilitating resources generation and sharing. The research teams should be composed of individuals with complementary expertise who propose to either develop innovative resources (Resource Development Projects) or new research projects (Scientific Research Projects) that utilize integrative approaches to address questions relevant to benign urological diseases or disorders. Resources developed by the Resource Development Projects will be shared upon validation while resources developed within the Scientific Research Projects will be shared at the end or termination of the award, as appropriate and consistent with the program goal of further advancing research. Each Developmental Center is centered on a single Project and must contain an Administrative Core and an Educational Enrichment Program. As part of the efforts of the Division of Kidney, Urologic and Hematologic Diseases (DKUH) to expand and enhance benign urology research, the Developmental Centers Program will work in partnership with the George M. O'Brien Urology Cooperative Research Centers Program (U54) and the Multidisciplinary K12 Urologic Research (KURe) Career Development Program. Letter of Intent Due Date(s): February 7, 2017. Application Due Date(s): March 7, 2017.

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Department of Energy

[Marine and Hydrokinetic Technology Development and Advancement](#) - This Funding Opportunity Announcement is soliciting applications that support research, testing, and development of innovative technologies capable of generat-

ing renewable, environmentally responsible and cost-effective electricity from U.S. water resources. These include marine and hydrokinetic (MHK) technologies that harness the energy from waves and ocean/tidal/river currents. The MHK sub-program of the Water Power Technologies Office has the opportunity to focus on the technologies that can be deployed in early-adopter markets (i.e., wave and current resources with high energy costs) in the near-term while supporting next generation technologies that have the potential to be cost competitive with other energy generation technologies in large utility scale markets in the longer term. This Funding Opportunity Announcement targets technologies aiming for economic competitiveness in either early-adopter or large utility scale markets. This FOA will solicit applications that propose projects supporting MHK research and development projects in two Topic Areas: Topic Area 1 "Wave Energy Converters System Advancement" will focus on advancing the design of wave energy converters from prototypes to full systems. Topic Area 2 "Open Topic – MHK Technology Development" seeks to develop innovative technologies that have the potential to significantly advance MHK technologies and the state of the MHK industry. A webinar will be held for this FOA on Tuesday, December 20, 2016. Please register to attend this webinar here: <https://attendee.gotowebinar.com/register/4373534378175507716>. Concept Paper Submission Deadline: 1/17/2017 5:00 PM ET. Full Application Submission Deadline: 3/1/2017 5:00 PM ET.

Fiscal Year 2017 Vehicle Technologies Program Wide Funding Opportunity Announcement - This Funding Opportunity Announcement (FOA) supports the Energy Efficiency and Renewable Energy 2016-2020 Strategic Plan and Implementation Framework Goal 1 to accelerate the development and adoption of sustainable transportation technologies. In addition, this FOA seeks highly-innovative, highly-leveraged, and scalable smart mobility projects that focus on transportation system-level opportunities to significantly increase the energy efficiency of goods and or people movement. This FOA contains four Areas of Interest and focuses on the research and development of advanced battery technologies, lightweight materials technologies, advanced emissions control technology, and innovative technologies for energy efficient mobility. Webinar: Tues, Jan 10, 2017 2:00 PM - 3:00 PM EST. Participants can use their telephone or computer mic & speakers (VoIP). United States: +1 (562) 247-8321 Audio PIN: Shown after joining the webinar. Access Code: 742-761-135. **Must Register PRIOR to Webinar.** Registration URL: <https://attendee.gotowebinar.com/register/3407203295318519298> Webinar ID: 307-826-531. Concept Paper Submission Deadline: 1/31/2017 5:00 PM ET. Full Application Submission Deadline: 3/24/2017 5:00 PM ET.

The Office of Energy Efficiency and Renewable Energy (EERE) is issuing, on behalf of the Bioenergy Technologies Office (BETO), a Funding Opportunity Announcement (FOA) DE-FOA-0001628, entitled "[Productivity Enhanced Algae and Tool-Kits \(PEAK\)](#)." Through this FOA, DOE will support multidisciplinary biological innovation to deliver strains, tools, data, and techniques to enhance algal biofuel potential and enable accelerated future innovation in algal biofuels and bioproducts. This FOA will fund a variety of projects and approaches that overcome species-specific, ecological, and practical challenges to achieving improved algal areal productivity and to fuel yield (i.e. biomass composition). This FOA has two topic areas: 1) Topic Area 1: Strain Improvement - This topic area is for small teams to develop enhanced algal strains with increased areal productivity and biofuel yield, along with improved or novel algal toolkits and/or methods. Strain improvement methods may include gene discovery and biological pathway analysis, directed evolution, breeding, and/or genetic engineering of novel algal strains that can reproducibly out-perform the current best available strains in outdoor conditions, where "performance" is represented by productivity, robustness, and composition. Applicants must include a detailed discussion of the reasoning behind their proposed strategy or strategies, strain choice, and why the proposed strain improvement approach has/have the highest probability of success. 2) Topic Area 2: Cultivation Biology Improvement - This topic area is for small teams to develop increased areal productivity and biofuel yield through enhanced management of ecological or abiotic contributions to cultivation biology, along with improved or novel algal toolkits and/or methods. Cultivation biology development improvements may include leveraging natural or designed microbial assemblages of the algal culture ecosystem to boost performance and resist pathogens, and understanding species-specific cultivation conditions.

Please register for DOE's Productivity Enhanced Algae and Tool-Kits FOA Informational Webinar on Dec 20, 2016 12:00 PM EST at: <https://attendee.gotowebinar.com/register/3519935123068370689>

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Department of Defense

FY17 Utilizing Machine Learning and Artificial Intelligence for Medical Training Needs (MACH Learning) Award - The FY17 JPC-1/MSIS MACH Learning Award supports research to determine, define, and validate predictive machine learning modeling systems that predict early stages of training needs in order to eliminate the current culture of just-in-time training or not being able to offer refresher training in an efficient manner. The intended outcomes are relevant for military and general public training and educational purposes. The FY17 JPC-1/MSIS MACH Learning Award seeks metrics/evaluation criteria, the definition of those metrics/evaluation criteria, and specific measuring tools to obtain

(collect) and potentially analyze the metrics/evaluation criteria needed to develop a sufficient algorithm for use in the prediction of training needs, both in the skill acquisition phase and in refresher training. It is also seeking a proof-of-concept and/or prototype (depending on award vehicle) in which the proposed predictive model works together with incoming data/information from different, well-evidenced sources. The models need to use real data/information /knowledge and need to compare against known guidelines within the relative medical discipline and a comparable, peer-level group. The outcomes of the research will allow data/information/knowledge into the proof-of-concept and/or prototype (depending on award vehicle) model. The model needs to be tested in a laboratory-type environment, preferably by a subawardee with no active participation in the development of the model. Actual interfaces will need to be described and defined in the outcome, but functionality of the entire defined interface does not need to be demonstrated in the delivered proof-of-concept and/or prototype (depending on award vehicle). Pre-Application: February 3, 2017. Extramural Application: May 12, 2017.

DoD USAMRMC FY17 Broad Agency Announcement for Extramural Medical Research (click Related Documents tab) - This FY17 BAA is intended to solicit extramural research and development ideas. Projects funded under this BAA must be for basic and applied research to support scientific study and experimentation directed towards advancing the state of the art or increasing knowledge or understanding rather than focusing on development of a specific system or hardware solution. Research and development funded through this BAA are intended and expected to benefit and inform both military and civilian medical practice and knowledge. The selection process is highly competitive and the quantity of meaningful submissions (both pre-proposals/pre-applications and full proposals/applications) received typically exceeds the number of awards that available funding can support. This BAA provides a general description of USAMRMC's research and development programs, including research areas of interest, evaluation and selection criteria, pre-proposal/pre-application and full proposal/application preparation instructions, and general administrative information. Specific submission information and additional administrative requirements can be found in the document titled "General Submission Instructions" available in Grants.gov along with this BAA. This FY17 BAA is continuously open for a 12-month period, from October 1, 2016 through September 30, 2017, at 11:59 p.m. Eastern Time. Submission of a pre-proposal/pre-application is required and must be submitted through the electronic Biomedical Research Application Portal (eBRAP) (<https://eBRAP.org/>). Pre-proposals/pre-applications may be submitted at any time throughout the 12-month period. If the USAMRMC is interested in receiving a full proposal/application, the PI will be sent an invitation to submit via eBRAP. A full proposal/application must be submitted through Grants.gov (<http://www.grants.gov/>). Invited full proposals/applications can be submitted under this FY17 BAA through September 30, 2017.

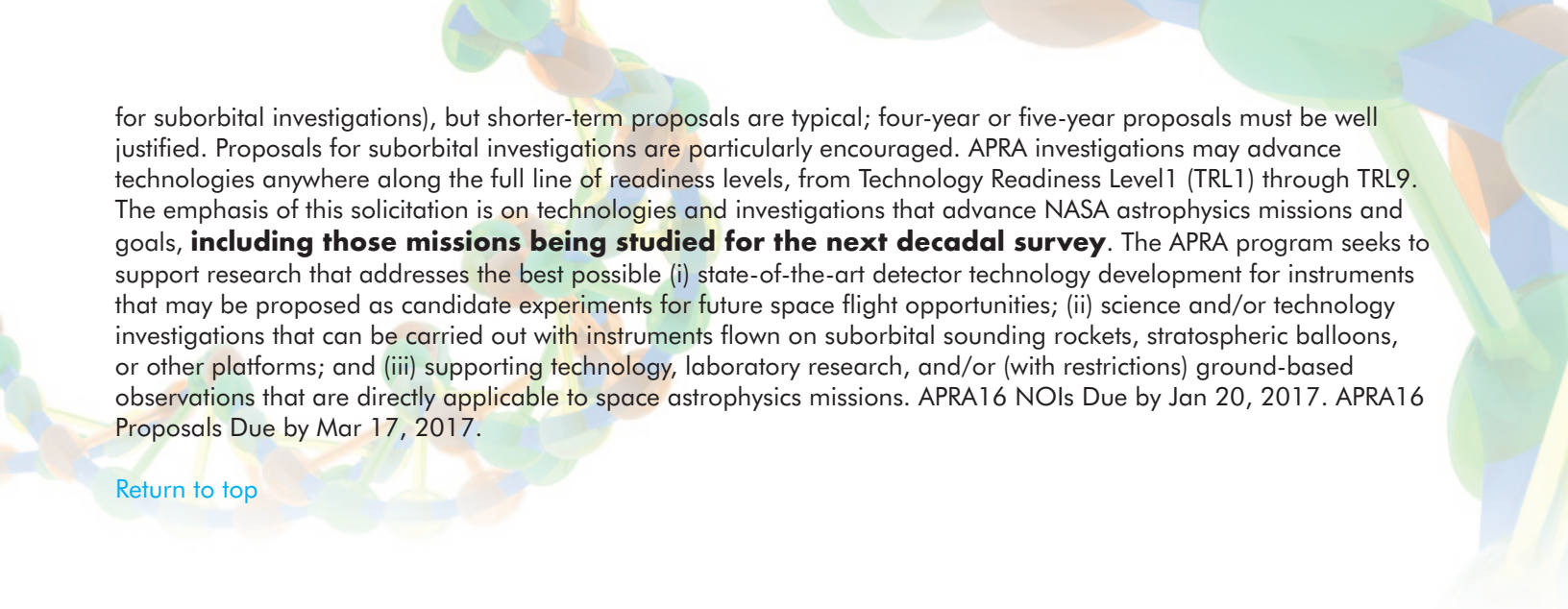
The Office of Naval Research (ONR) is interested in receiving proposals for **Additive Manufacturing Alloys for Naval Environments (AMANE)**. The objective of this research opportunity is to design, develop and optimize new metallic alloy compositions for additive manufacturing (AM) that are resistant to the effects of the Naval/maritime environment. This program shall use a fundamental Integrated Computational Materials Engineering (ICME) framework coupled with experimentation to relate variations in alloy chemistry, AM processing parameters, and post-processing conditions to the mechanical and electrochemical/corrosion properties that can be achieved. Participants will use this knowledge to identify an alloy composition range optimized to fabricate robust AM components that is resistant to the effects of exposure in a maritime environment. Proposals: 15 February 2017 (Wednesday) 11:59 PM Eastern Standard Time. IMPORTANT NOTE: White Papers are NOT being solicited but are OPTIONAL if you wish to submit before submitting a proposal.

A MEchanically Based Antenna (AMEBA) - DARPA seeks innovative proposals to develop mechanically-driven transmitters producing radio frequency (RF) signals at carrier frequencies below 30 kHz. The program will develop the basic technologies and demonstrate the feasibility of low-size, weight, and power (SWaP) transmitters satisfying the requirements of representative DoD missions. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice. Proposers Day: January 6, 2017. Abstract Due Date: January 17, 2017. FAQ Submission Deadline: March 8, 2017. Proposal Due Date: March 22, 2017.

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NASA

The **Astrophysics Research and Analysis Program (APRA)** program solicits basic research proposals for investigations that are relevant to NASA's programs in astronomy and astrophysics and includes research over the entire range of photons, gravitational waves, and particle astrophysics. Awards may be for up to four years' duration (up to five years



for suborbital investigations), but shorter-term proposals are typical; four-year or five-year proposals must be well justified. Proposals for suborbital investigations are particularly encouraged. APRA investigations may advance technologies anywhere along the full line of readiness levels, from Technology Readiness Level1 (TRL1) through TRL9. The emphasis of this solicitation is on technologies and investigations that advance NASA astrophysics missions and goals, **including those missions being studied for the next decadal survey**. The APRA program seeks to support research that addresses the best possible (i) state-of-the-art detector technology development for instruments that may be proposed as candidate experiments for future space flight opportunities; (ii) science and/or technology investigations that can be carried out with instruments flown on suborbital sounding rockets, stratospheric balloons, or other platforms; and (iii) supporting technology, laboratory research, and/or (with restrictions) ground-based observations that are directly applicable to space astrophysics missions. APRA16 NOIs Due by Jan 20, 2017. APRA16 Proposals Due by Mar 17, 2017.

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