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.

Kesearch

HIGHER EDUCATION POLICY COMMISSION

West Virginia

ence

A good read, especially for junior faculty: http://www.sciencemag.org/careers/2017/05/benefits-awards-even-if-youdon-t-win

Division of Science and Research

Even though we don't know what the budget will hold, the Division of Science and Research is releasing the RFPs for STEM Fellowships and Research Challenge Grants today. **Deadline for proposals for both is August 1, 2017.**

NSF NIH DOD DOE NASA

National Science Foundation

The Chemical Catalysis Program supports experimental and theoretical research directed towards the fundamental understanding of the chemistry of catalytic processes at the molecular level. The Program accepts proposals on catalytic approaches, which facilitate, direct, and accelerate efficient chemical transformations. This includes the design and synthesis of catalytic species on the molecular, supramolecular, and nanometer scales as well as studies of the dynamics of homogeneous and heterogeneous catalytic processes. Processes of interest include (but are not limited to): polymerization catalysis, single site catalysis, and biologically-inspired catalysis. Applications of modeling, theory, and simulation to catalytic processes are also relevant. Fundamental studies of energy-related catalytic processes, CO2 conversion, electrocatalysis (such as in water splitting and fuel cells), and photocatalysis (such as in solar energy conversion) are welcome in the program. Full Proposal Window: September 1, 2017 - October 2, 2017.

Chemical Structure, Dynamics and Mechanisms (CSDM-A) - Research supported by this program generally seeks to develop and refine our quantitative understanding of molecular structure, reactivity and dynamics. The most successful proposals will be those which describe research that has the potential to change how we think about chemical structure and dynamics in general, as opposed to the behavior of a specific class of molecules or reactions. CSDM-A research often involves the development of experimental techniques that extend the limits of short time scales or spectral resolution. When the development of such capabilities is the primary focus (rather than the pursuit of specific new insights they may enable), the work is probably better suited to the Chemical Measurement and Imaging program. Examples of topics recently funded in CSDM-A include femtosecond time-resolved studies of solvent effects on reaction dynamics, photoelectron spectroscopy of gas phase ions and clusters, nonlinear vibrational spectroscopy of liquid-liquid interfaces, diffraction/scanning probe studies of molecular adsorbates on metal surfaces, and the molecular modeling of clathrate hydrate growth. Full Proposal Window: September 1, 2017 - October 2, 2017.

Chemical Structure, Dynamics and Mechanisms (CSDM-B) - Research supported in this program seeks to map specific molecular structures to their chemical reactivities and/or chemical properties. It often involves complex chemical systems and may contain a substantial amount of chemical synthesis. While the CSDM-A portfolio includes phenomena that are tracked with ultrafast methods, research supported under CSDM-B extends to time scales dictated by reaction kinetics. CSDM-B proposals generally utilize existing experimental techniques as opposed to developing new ones. Topics of interests to CSDM-B include (but are not limited to) mechanistic studies of organometallic, organic, and inorganic reactions, chemistry of reactive intermediates, mechanistic studies of energy-related processes, and the interaction of light and electrons with chemical structures. Examples of recently funded projects in CSDM-B include mechanistic studies directed toward universal ligands and catalytic reactions of samarium diiodide, charge delocalization and mobility in ground and photoexcited states of conjugated systems, reactivity of 1,2-diradicals, shape-responsive fluorophores, computational studies of cycloaddition reactions, photophysical properties of spin-polarized molecules, and photorelease of stable molecules. Full Proposal Window: September 1, 2017 - October 2, 2017.

The Chemical Synthesis program focuses on the development of new, efficient synthetic methodologies and on the synthesis of complex and/or challenging molecules. Typical synthetic targets involve novel structures, structures displaying unique properties, or structures providing pathways to discover and elucidate new phenomena. Examples of supported research areas include the development of innovative reagents, catalysts for synthetic transformations, discovery of new synthetic methods, target-oriented synthesis, green synthesis, and synthesis of novel organic, organometallic, and inorganic structures. Research in this program will generate fundamental knowledge of chemical synthesis that enables the development of new avenues of basic chemical research and transformative technologies. Full Proposal Window: September 1, 2017 - October 2, 2017.

The Chemical Theory, Models and Computational Methods program supports the discovery and development of theoretical and computational methods or models to address a range of chemical challenges, with emphasis on emerging areas of chemical research. Proposals that focus on established theoretical or computational approaches should involve innovative additions or modifications that substantially broaden their applicability. Areas of interest include, but are not limited to, electronic structure, quantum reaction dynamics, statistical mechanics, molecular dynamics, and simulation and modeling techniques for molecular systems and systems in condensed phases. Areas of application span the full range of chemical systems from small molecules to mesoscopic aggregates, including single molecules, biological systems and materials in condensed phases. Despite the diverse application areas, the goal of the program is to support the development of new theoretical and computational methodologies that have the potential of being broadly applicable to a range of challenging chemical problems. We are particularly interested in fundamental areas of chemical research that are difficult or impossible to address using current synthetic, experimental, and/or computational methodologies. We encourage the integration of innovative software development with methodological and algorithmic development, especially computational approaches that allow efficient utilization of the high end computers of the future. Such proposals may be submitted to the CTMC program through the computational and Data Science and Engineering (CDS&E) funding opportunity: https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504813. Note: The proposal submitted should have

"CDS&E:.." specified in the title to be distinguished from regular CTMC proposals. Full Proposal Window: September 1, 2017 - October 2, 2017 for Division of Chemistry - Chemical Theory, Models and Computational Methods; September 1, 2017 - October 31, 2017 for Division of Materials Research; October 1, 2017 - October 31, 2017 for Division of Chemistry - Chemical Measurement and Imaging, Directorate for Engineering's Division of Chemical, Bioengineering, Environmental, and Transport Systems and Division of Electrical, Communications and Cyber Systems .

Return to top

National Institutes of Health

NeuroNEXT Small Business Innovation in Clinical Trials (U44) - This Funding Opportunity Announcement (FOA) encourages small business applications for exploratory clinical trials of investigational agents (drugs, biologics, surgical therapies or devices) that may contribute to the justification for and provide the data required for designing clinical studies. Diseases chosen for study should be based on the NINDS' strategic plan and clinical research interests (www.ninds.nih.gov/funding/areas/index.htm). Companion Funding Opportunities are PAR-15-195, X01 Resource Access Award and PAR-16-155, U01, Cooperative Agreements. Application Due Date(s): Standard dates apply.

PHS 2017-02 Omnibus Solicitation of the NIH for Small Business Technology Transfer Grant Applications (Parent STTR [R41/R42]) - This Funding Opportunity Announcement (FOA) issued by the National Institutes of Health (NIH) invites eligible United States small business concerns (SBCs) to submit Small Business Technology Transfer (STTR) grant applications. United States SBCs that have the research capabilities and technological expertise to contribute to the R and D mission(s) of the NIH awarding components identified in this FOA are encouraged to submit STTR grant applications in response to identified topics (see PHS 2017-2 SBIR/STTR Program Descriptions and Research Topics for NIH). Companion Funding Opportunity is PA-17-302, STTR R43/R44- Phase I, Phase II, and Fast Track. Application Due Date(s): Standard dates apply.

Uncovering the Causes, Contexts, and Consequences of Elder Mistreatment (R01) - The purpose of this Funding Opportunity Announcement is to solicit applications proposing research that can lead to advancements in the understanding of elder mistreatment (emotional abuse, physical abuse, and sexual abuse; financial exploitation; abandonment; and neglect) and lay the foundation for the future design of mechanistically focused interventions for individuals at risk for mistreating elders, for promoting recovery and resilience in the maltreated and their families, and for preventing re-perpetration for those who have inflicted harm. Applications are solicited from multidisciplinary teams which include researchers from the fields of elder mistreatment, child abuse and neglect, intimate

partner violence, and/or emergency medicine to pursue research in two priority areas: (1) the development of new and innovative tools and methods for the screening and detection of elder mistreatment; and (2) the identification of modifiable risk factors for elder mistreatment and modifiable protective factors, with potential to prevent maltreatment and/or enable individuals who have been mistreated and those who have mistreated others to overcome adversity and thrive. All applications should propose evidence-based strategies for addressing ethical challenges surrounding informed consent and study design in the research proposed, and to employ, when possible, best practices established in the fields of child abuse and neglect and/or intimate partner violence. Letter of Intent Due Date(s): September 20, 2017. Application Due Date(s): October 20, 2017.

Imaging the Persistent HIV Reservoir (R01) - The purpose of this Funding Opportunity Announcement (FOA) is to support the development of imaging approaches to identify and characterize persistent HIV reservoirs in patients undergoing suppressive antiretroviral therapy (ART) and to quantify the nature and size of these reservoirs in response to therapeutic interventions. Application Due Date(s): Standard AIDS dates apply.

Reproductive Scientist Development Program (RSDP) (K12) - The purpose of this FOA issued by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), NIH is to announce the re-competition of the Reproductive Scientist Development Program (RSDP). This program constitutes a national network of mentors and scholars, in contrast to K12 programs that are based solely at a single applicant institution. The purpose of the RSDP is to provide career development support for obstetricians and gynecologists who have completed their clinical training, and who are committed to a career conducting basic science research in an academic setting. The overall goal of the Program is to strengthen the field of obstetrics and gynecology by encouraging the application of contemporary science advances to clinical practice and facilitating the transition to independence of physician-scientists in areas related to obstetrics and gynecology and its subspecialties. Letter of Intent Due Date(s): September 30, 2017. Application Due Date(s): October 30, 2017.

Institutional Development Award (IDeA) Program Infrastructure for Clinical and Translational Research (IDeA-CTR)(U54) - The purpose of this Funding Opportunity Announcement (FOA) is to support the development of infrastructure and other resources required for the conduct of Clinical and Translational Research (CTR) in IDeA-eligible states. IDeA-CTR Centers are expected to provide added value to the biomedical research efforts in the participating institutions through support of activities that cannot easily be provided through standard research grant awards. The proposed activities will provide the infrastructure and resources that will enhance the competitiveness of the investigators to obtain additional funding for clinical and translational research. Applicants must establish a statewide network of collaborating and partnering institutions/organizations. Other institutions/organizations outside the state may be included if forming a network of wider reach. Since only one award will be made per IDeA-eligible state, only one application should be submitted per state. Letter of Intent Due Date(s): 30 days prior to the application due date. Application Due Date(s): October 2, 2017; October 2, 2018; October 2, 2019.

Optimizing HIV Phylodynamics to Target and Interrogate Clusters (OPTICs) (R21) - The purpose of this Funding Opportunity Announcement (FOA) is to support exploratory basic research to develop innovative phylodynamic approaches to identify and prioritize the most rapidly growing HIV transmission clusters within a given population of individuals in near-real time. Companion Funding Opportunity is PAR-17-048, R01 Research Project Grant. Application Due Date(s): Standard AIDS dates apply.

Return to top

Department of Defense

DoDO Spinal Cord Injury Research Program - The FY17 SCIRP challenges the scientific community to design innovative research that will foster new directions for and address neglected issues in the field of SCI-focused research. Applications from investigators within the military Services, and applications involving multidisciplinary collaborations among academia, industry, the military Services, the Department of Veterans Affairs (VA), and other Federal Government agencies are highly encouraged. Though the SCIRP supports groundbreaking research, all projects must demonstrate solid scientific rationale. The FY17 SCIRP encourages applications that specifically address one or more of the following areas: Pre-hospital, prolonged field care, en route care, and early hospital management of SCI; Development, validation, and timing of promising interventions to address consequences of SCI and to improve recovery, including, but not limited to: Bladder, bowel, and autonomic dysfunction, Cardiometabolic dysfunction. There are five award mechanisms: Qualitative Research Award; Clinical Research Development Award; Investigator-Initiated Research Award; Translational Research Award; and Clinical Trial Award. Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), August 8, 2017. Invitation to Submit an Application: September, 2017. Application Submission Deadline: 11:59 p.m. ET, November 29, 2017. For all of these, click on Related Documents tab.

DoD Neurofibromatosis Research Program - The vision of the FY17 NFRP is to decrease the clinical impact of NF. Toward this end, the NFRP seeks to support innovative, high-impact research that will foster new directions for and address neglected issues in NF research; sponsor multidisciplinary and multi-institutional collaborations that will bring new perspectives to the field; promote translational and clinical studies to move promising ideas from bench to bedside; and develop a balanced portfolio of meritorious research related to all aspects of NF1, NF2, and schwannomatosis. There are four award mechanisms: Exploration-Hypothesis Development Award; New Investigator Award; Investigator-Initiated Research Award; and Clinical Trial Award. Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), July 26, 2017. Application Submission Deadline: 11:59 p.m. ET, August 9, 2017. For all of these, click on Related Documents tab.

The U.S. Army Research Office (ARO) in collaboration with the National Security Agency (NSA) is soliciting proposals for research in High Performance Superconducting Qubit Systems. This BAA has two primary goals; (a) substantially improve the fidelity of one and two-qubit operations over current state-of-the-art performance, and (b) design and test qubits with built-in error protection. While proposals that advance both primary goals in an integrated approach are encouraged, proposers may focus on either goal individually, given the state-of-the-art of their approach. There are two types of proposals with different research scopes covered in this announcement: 1. High performance superconducting qubit systems a. High Fidelity 2-qubit gates b. Error protected qubits 2. Key supporting technology to high-performance superconducting qubits. White Papers: 4:00 PM Eastern Daylight Savings Time on: July 10, 2017. Proposals: 4:00 PM Eastern Daylight Savings Time on: September 18, 2017.

FY2018 Office of Naval Research (ONR) Young Investigator Program (YIP) - ONR's Young Investigator Program (YIP) seeks to identify and support academic scientists and engineers who are in their first or second full-time tenure-track or tenure-track-equivalent academic appointment, have begun their first appointment on or after 31 December 2012, and who show exceptional promise for doing creative research. The objectives of this program are to attract outstanding faculty members of Institutions of Higher Education (hereafter also called "universities") to the Department of the Navy's Science and Technology (S&T) research program, to support their research, and to encourage their teaching and research careers. Proposals addressing research areas (as described in the ONR Science and Technology Department section of ONR's website at www.onr.navy.mil) which are of interest to ONR program officers will be considered. Contact information for each division (a subgroup of an S&T Department) is also listed within the S&T section of the website. Your proposal must be received no later than Friday, 15 September 2017 at 11:59 PM Eastern Daylight Time.

Applications to the Fiscal Year 2017 (FY17) Autism Research Program (ARP) are being solicited for the Defense Health Agency (DHA) J9, Research and Development Directorate. The ARP was initiated in 2007 to provide support for research of exceptional scientific merit and innovation with high impact that focuses on autism spectrum disorder (ASD). The ARP's vision is to improve the lives of individuals with ASD now by promoting innovative research that advances the understanding of ASD and leads to improved outcomes. There are three award mechanisms: Idea Development Award; Clinical Translational Research Award; and Clinical Trial Award. Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), July 26, 2017. Invitation to Submit an Application: September 1, 2017. Application Submission Deadline: 11:59 p.m. ET, October 19, 2017. These are on Grants.gov, so click on Related Documents tab.

DoD Military Burn Clinical Trial Award (click on Related Documents tab) - The objective of this Program Announcement is to explore innovative approaches to accelerate the translation of knowledge advances into new treatments for the Service members who sustain burn injuries. The results of the research funded through the FY17/18 MBRP Clinical Trial Award are expected to increase the body of knowledge and materiel products available to professionals and practitioners in health, medical science, and related fields. The research impact is expected to benefit both civilian and military communities. The FY17/18 MBRP Clinical Trial Award supports clinical research studies with the potential to have a major impact on the prevention, treatment, and mitigation of debilitating burn scars that are relevant to military personnel. The specific intent is to improve functional outcomes and/or assess clinical efficacy and safety of different treatment modalities (e.g., dressing topics, biologics, cell-based therapies, mechanical, photonics). Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), August 3, 2017. Invitation to Submit an Application: September 6, 2017. Application Submission Deadline: 11:59 p.m. ET, October 19, 2017.

Lagrange - The Defense Sciences Office at the Defense Advanced Research Projects Agency (DARPA) is soliciting innovative research proposals to develop novel mathematical methods, on both the theoretical and algorithmic fronts, which will solve high-dimensional dynamic data-driven optimization and decision-making problems. Proposed research should fully address challenges that arise from the nonlinear, nonconvex, hybrid (continuous, discrete) nature of underlying modeling and optimization of realistic complex application problems. Specifically excluded is research that offers existing solutions and optimization methods for application areas. Proposers Day:

June 19, 2017. See Section VIII.C. Teaming Profile Submission Deadline: June 21, 2017, 3:00 p.m. Abstract Due Date: July 6, 2017, 4:00 p.m. FAQ Submission Deadline: August 23, 2017, 4:00 p.m. Full Proposal Due Date: August 30, 2017, 4:00 p.m.

Research of Technologies Advancing Corrosion Prevention and Control (click on Related Documents tab) - This CALL is focused on fundamental research that can lead to the future development of capabilities to prevent and control corrosion and degradation of materials and structures of systems and facilities, with the ultimate goal of reducing costs, improving availability of systems, and increasing the safety of military assets, which also serve interest and use to the general public. Projects must be new research efforts. Proposals for the continuation of existing research projects funded under previous grant or cooperative agreement awards are not desired. Collaboration among proposing institutions is strongly encouraged. WHITE PAPER DUE DATE AND TIME: The due date for white papers submitted in response to this CALL is no later than 1630 MST on 10 July 2017. Should potential offers receive a formal request for proposal, they are requested to advise the Grants Officer point of contact (by e-mail) if they intend to submit a proposal. Such notification is merely a courtesy and is not a commitment by the offeror to submit a proposal. The due date for proposals will be 30 days after a formal request for proposal has been sent to the submitter of the selected white paper(s).

Return to top

Department of Energy

The U.S. Department of Agriculture (USDA), in collaboration with the U.S. Department of Energy (DOE), announce that up to \$9 million in funding will be made available through the Biomass Research and Development Initiative (BRDI) to increase the nation's energy independence by supporting the development of bioenergy feedstocks, biofuels, and biobased products. The projects funded through BRDI—a joint USDA and DOE program—will help develop economically and environmentally sustainable sources of renewable biomass, increase the availability of renewable fuels and biobased products, and diversify our energy portfolio. Both DOE and USDA have been given statutory authorities to support the development of a biomass-based industry in the United States, under the Food, Conservation, and Energy Act of 2008 (FCEA) and the Energy Policy Act of 2005. USDA and DOE will make up to \$9 million available through BRDI in Fiscal Year (FY) 2017. Applicants will be permitted to address any or all of the following three legislatively mandated technical areas: (A) feedstocks development, (B) biofuels and biobased products development analysis. In support of these goals, USDA and DOE are soliciting applications from all interested parties, including for-profit entities, universities, nonprofits, and national laboratories. Concept Paper Submission Deadline: 7/7/2017, 5:00 PM ET. Full Application Submission Deadline: 9/22/2017, 5:00 PM ET.

Development of Transformational Separation and Extraction Processes for Production of Rare Earth Element Materials from Domestic U.S. Coal and Coal By-Products - The Rare Earth Elements (REE) Program is focused on developing technologies for the recovery of REEs from coal and coal by-products. The program offers a pathway to improve the economics and reduce the environmental impact of a domestic coal-based REE value chain. The Department of Energy is looking to develop new technologies or technology advancements that result in improvements in technical, environmental, and economic performance of existing technologies to recover rare earth elements from domestic U.S. coal and coal by-products. Application Due Date: 7/18/2017 at 11:59 PM Eastern Time.

Small Scale Modularization of Gasification Technology Components for Radically Engineered Modular Systems -The mission of the DOE Clean Coal Program is focused on developing advancements in technology that increase the performance, efficiency and availability of existing and new coal-fueled power generation to provide the Nation with the best opportunity to tap into the full potential of its abundant fossil energy resources in an environmentally sound and secure manner. The Advanced Energy Systems (AES) program focuses on improving the efficiency of coal-based power systems, increasing plant availability, and maintaining the highest environmental standards. Applications are being solicited under this Funding Opportunity Announcement (FOA) to develop emerging gasification technologies that may be advantageously reduced to practice at the modular small scale to support accomplishment of program goals via the Radically Engineered Modular Systems (REMS) concept. Application Due Date: August 8, 2017 at 11:59:59 PM Eastern Time.

Collaborative Fusion Energy Research in the DIII-D National Program - The Fusion Energy Sciences (FES) Program of the Office of Science (SC), U.S. Department of Energy (DOE), hereby announces its interest in receiving grant applications for collaborative research in fusion energy science as part of the DIII-D national research program. The mission of the DIII-D program is to establish the scientific basis for the optimization of the tokamak approach to fusion energy production. The primary means to accomplish this mission is research utilizing the DIII-D tokamak

to develop the ultimate potential of the tokamak concept as a magnetic confinement system. The DIII-D program also involves foundational fusion energy science research to make progress on a broad front toward predictive understanding of fusion plasmas. The major strengths of the program are the highly flexible and well-diagnosed DIII-D tokamak and a large collaborative research team from the national and international fusion community. All applications will utilize the DIII-D National Fusion Facility at General Atomics in San Diego, California. This includes modeling validation and verification proposals utilizing DIII-D data. All applicants (whether requesting support for individual researchers or groups of researchers) planning to submit applications for new or renewal support in Fiscal Year 2018 should submit applications in response to this FOA. Applications that are not primarily focused on research using the DIII-D tokamak are outside the scope of this FOA and should not be submitted under it. Applications solely requesting experimental run time on DIII-D are also outside the scope of this FOA and should not be submitted under it. Pre-Application Due Date: 07/13/2017 at 5 PM Eastern Time (A Pre-Application is required). Encourage/Discourage Date: 07/21/2017 at 5 PM Eastern Time Application Due Date: 09/21/2017 at 5 PM Eastern Time.

University Turbine Systems Research - The objective of this FOA is to solicit and competitively award universitybased R&D projects that address and resolve scientific challenges and applied engineering technology issues associated with advancing the performance and efficiency of combustion turbines in combined cycle applications (e.g., IGCC/NGCC) in fossil fuel power generation. The FOA will seek to solicit and competitively award laboratory/bench-scale R&D in the following six technical topic areas: 1) Low-NOx Combustion Technology Development for 'Air-Breathing' Advanced Turbines 2) Advanced Cooling Technology Development for 'Air-Breathing' Advanced Turbines 3) Advanced Materials Technology Development for 'Air-Breathing' Advanced Turbines 4) Big Data Analytics 5) Advanced Instrumentation 6) Pressure Gain Combustion. Application Due Date: 7/20/2017 at 8:00:00 PM Eastern Time.

Advanced Combustion Technologies - The objective of this FOA is to solicit and competitively award applied research projects to develop advanced combustion systems that will make substantial progress toward enabling cost-competitive, coal-based power generation systems to remain in operation and to expand coal use while meeting the goal of achieving near-zero pollutant emissions. Application Due Date: 08/08/2017 at 8:00:00 PM Eastern Time.

Return to top

NASA

The Science of TERRA, AQUA, and SUOMI NPP - The present solicitation provides an opportunity for scientists to undertake studies responsive to NASA, the Science Mission Directorate's science objectives (https://science.nasa.gov/about-us/science-strategy), and the NASA Earth Science Research objectives (https://science.nasa.gov/earth-science) and to provide answers to NASA's Earth Science Research questions ((https://science.nasa.gov/earth-science/big-questions) through the use of data and derived products from Terra and Aqua and their measurement sensors, as well as the Suomi NPP satellite and its measurement sensors. It represents a continuation of the research aspects of the EOS and Suomi NPP Instrument Teams for these satellites, and emphasizes opportunities for scientists to analyze and exploit EOS and Suomi NPP data. It also provides an opportunity to develop new products by combining multi-sensor and multi-platform data, or by developing innovative approaches to data retrievals. This program element offers investigators an opportunity to conduct integrative research using the data and products resulting from these satellites (Terra, Aqua, Suomi NPP). Additionally, this program element welcomes the opportunity to fuse multiple sensors and data streams, including Terra, Aqua, and Suomi NPP, to conduct interdisciplinary and multi-disciplinary Earth System Science. Notices of intent are requested by June 19, 2017. Proposals are due August 17, 2017.

Return to top