GRANT OPPORTUNITIES

Gupta College of Science

General

FY 2020 NASA Established Program to Stimulate Cooperative Agreement Notice
National Aeronautics and Space Administration
Due Date: 03/06/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=323064
Based on the availability of funding, proposals from eligible EPSCoR jurisdictions will be accepted and awards selected through a merit-based, peer-review competition for a cooperative agreement of up to $750,000 over 36 months. The following are the specific objectives of NASA EPSCoR: Contribute to and promote the development of research capability in NASA EPSCoR jurisdictions in areas of strategic importance to the NASA mission; Improve the capabilities of the NASA EPSCoR jurisdictions to gain support from sources outside the NASA EPSCoR program; Develop partnerships among NASA research assets, academic institutions, and industry; Contribute to the overall research infrastructure, science and technology capabilities of higher education, and economic development of the jurisdiction. Per Public Law 102-588, proposals will be accepted only from the 28 NASA EPSCoR Directors at the lead institutions for which they are currently serving. The NASA EPSCoR Directors from the following jurisdictions are eligible to submit one proposal to this NASA EPSCoR solicitation: Alabama, Alaska, Arkansas, Delaware, Idaho, Iowa, Guam, Hawaii, Kansas, Kentucky, Louisiana, Maine, Mississippi, Montana, Nebraska, Nevada, New Hampshire, New Mexico, North Dakota, Oklahoma, Puerto Rico, Rhode Island, South Carolina, South Dakota, US Virgin Islands, Vermont, West Virginia, and Wyoming.

Early Career Research Program
Department of Energy – Office of Science
Due Date: 03/16/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=322675
SC hereby invites grant applications for support under the Early Career Research Program in the following program areas: Advanced Scientific Computing Research (ASCR); Biological and Environmental Research (BER); Basic Energy Sciences (BES), Fusion Energy Sciences (FES); High Energy Physics (HEP), and Nuclear Physics (NP). The purpose of this program is to support the development of individual research programs of outstanding scientists early in their careers and to stimulate research careers in the areas supported by SC.

Higher Education Challenge (HEC) Grants Program
Department of Agriculture – National Institute of Food and Agriculture
Due Date: 03/23/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=320953
Projects supported by the Higher Education Challenge Grants Program will: (1) address a state, regional, national, or international educational need; (2) involve a creative or non-traditional approach toward addressing that need that can serve as a model to others; (3) encourage and facilitate better working relationships in the university science and education community, as well as between universities and the private sector, to enhance program quality and supplement available resources; and (4) result in benefits that will likely transcend the project duration and USDA support.
Environmental Literacy Grants: Supporting the education of K-12 students and the public for community resilience
Department of Commerce
Due Date: 03/26/2020

The goal of this funding opportunity is to build environmental literacy of K-12 students and the public so they are knowledgeable of the ways in which their community can become more resilient to extreme weather and/or other environmental hazards, and become involved in achieving that resilience. Projects should build the collective environmental literacy necessary for communities to become more resilient to the extreme weather and other environmental hazards they face in the short- and long-term. Building sufficient environmental literacy in a community means that these communities are composed of individuals who are supported by formal and informal education that develop their knowledge, skills, and confidence to: (1) reason about the ways that human and natural systems interact globally and where they live, including the acknowledgement of disproportionately distributed vulnerabilities; (2) participate in scientific and/or civic processes; and (3) consider scientific uncertainty, cultural knowledge, and diverse community values in decision making.
International Research and Education Network Connections  
National Science Foundation  
Due Date: 04/01/2020  
https://www.grants.gov/web/grants/view-opportunity.html?oppId=323453
The International Research and Education Network Connections (IRNC) Base program supports high-performance network connectivity required by international science and engineering research and education collaborations involving the NSF research community. High-performance network connections and infrastructure funded by this program are intended to support science and engineering research and education applications, and preference will be given to solutions that provide the best economy of scale and demonstrate the ability to support the largest communities of interest with the broadest services. Funded projects will assist the U.S. research and education community by enabling state-of-the-art international network services and access to increased collaboration and data services. NSF expects to make 3 to 10 awards in production R&E network infrastructure; 1 to 3 awards in international testbeds; and 1 award in Engagement.

2020 BREP (Bycatch Reduction Engineering Program)  
Department of Commerce  
Due Date: 04/02/2020  
https://www.grants.gov/web/grants/view-opportunity.html?oppId=323029
The mission of the National Bycatch Reduction Engineering Program (BREP) is to support the development of technological solutions and changes in fishing practices designed to minimize bycatch of fish and protected species (including Endangered Species Act-listed fish, marine mammals, seabirds, and sea turtles) and to reduce impacts to invertebrates (including sponges, deep-sea corals, and shallow (tropical) corals.) In addition, BREP may support projects that quantify post-release mortality and identify ways to minimize mortality and injury of bycaught species (including post-release injury and mortality). Projects should produce outcomes that can directly influence management needs of federally managed living marine resources.

NSF Innovation Corps Hubs Program  
National Science Foundation  
Due Date: 4/14/2020  
https://www.grants.gov/web/grants/view-opportunity.html?oppId=323205
The National Science Foundation (NSF) seeks to further develop and nurture a national innovation ecosystem that guides the output of scientific discoveries closer to the development of technologies, products, and services that benefit society. The goal of the NSF Innovation Corps (I-Corps) Program, created in 2011 by NSF, has been and will continue to be to reduce the time and risk associated with translating promising ideas and technologies from the laboratory to the marketplace. The I-Corps Program utilizes experiential learning of customer and industry discovery, coupled with first-hand investigation of industrial processes, to quickly assess the translational potential of inventions. The I-Corps Program is designed to support the commercialization of so-called “deep technologies,” or those revolving around fundamental discoveries in science and engineering. The I-Corps program addresses the skill and knowledge gap associated with the transformation of basic research into deep technology ventures (DTVs).
Creating solutions to pressing environmental and sustainability challenges will require input and imaginative approaches from various fields, perspectives, and disciplines. The National Academies of Sciences, Engineering and Medicine (NASEM), in their report "Environmental Engineering for the 21st Century: Addressing Grand Challenges," identified five critical challenges we must address as a society: Sustainably supply food, water, and energy, Curb climate change and adapt to its impacts, Design a future without pollution and waste, Create efficient, healthy, and resilient cities, Foster informed decisions and actions. The report further states, "The challenges provide focal points for evolving environmental engineering education, research, and practice toward increased contributions and a greater impact. Implementing this new model will require modifications in educational curriculum and creative approaches to foster interdisciplinary research on complex social and environmental problems." This solicitation aims to address these grand challenges by supporting a collaborative research model that seamlessly integrates sustainability, environmental engineering, and process science and engineering. Accordingly, the Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems (ECO-CBET) solicitation will support activities that confront vexing environmental engineering and sustainability problems by uncovering and incorporating fundamental knowledge to design new processes, materials, and devices from a systems-level perspective. Projects should be compelling and reflect sustained, coordinated efforts from interdisciplinary research teams. A key objective of the solicitation is to encourage conversations and robust collaborations amongst the chemical process, transport phenomena, bioengineering, and environmental and sustainability research communities such that unanticipated solutions may arise. Furthermore, training the future workforce to actively engage and be successful in interdisciplinary research will be necessary to continually innovate given the scope of the environmental problems faced by our global community.

Mid-Scale Innovations Program in Astronomical Sciences
National Science Foundation
Due date: 05/06/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=320837
A vigorous Mid-Scale Innovations Program (MSIP) was recommended by the 2010 Astronomy and Astrophysics Decadal Survey, citing "many highly promising projects for achieving diverse and timely science." As described in this solicitation, the Division of Astronomical Sciences conducts a mid-scale program to support a variety of astronomical activities within a cost range up to $30M. This program is formally divided into four subcategories: 1) limited term, self-contained science projects; 2) longer term mid-scale facilities; 3) development investments for future mid-scale and large-scale projects; and 4) community open access capabilities. MSIP will emphasize both strong scientific merit and a well-developed plan for student training and involvement of a diverse workforce in instrumentation, facility development, or data management.

U.S. Consulate General Naha Annual Program
Department of State – U.S. Mission to Japan
Due Date: 08/01/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=323093
PAS Naha invites Statement of Interest (SOI) for projects that strengthen cultural ties between the U.S. and Japan with an emphasis on Okinawa through cultural and exchange programming that highlights shared values and promotes bilateral cooperation. All programs must include an American cultural element, or connection with American expert/s, organization/s, or institution/s in a specific field that will promote increased understanding of U.S. policy and perspectives. All programs must take place on Okinawa or creates opportunities for residents of Okinawa. Examples of PAS Small Grants Program projects include, but are not limited to: Academic and professional lectures, seminars and speaker programs; Artistic and cultural workshops, joint performances and exhibitions; or Professional and academic exchanges and projects.
NRL Long Range Broad Agency (BAA) for Basic and Applied Research
Department of Defense – Naval Research Laboratory
Due Date: 09/05/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=320355
The NRL’s Broad Agency Announcement (BAA) issued under the provisions of paragraphs 35.016 and 6.102(d)(2) of the Federal Acquisition Regulations (FAR). Proposals may range from theoretical studies to proof-of-concept to include fabrication and delivery of a prototype. However, this is limited to research procurements for which it would be impossible to draft an adequate RFP in sufficient detail without restraining the technical response and thus hindering competition rather than expanding it. BAA topics include all NRL sites located in the Washington, DC area, the Stennis Space Center, MS, and Monterey, CA. Proposals submitted in response to a BAA announcement that are selected for award are considered to be the result of full and open competition and are in full compliance with the provisions of Public Law 98-369, "The Competition in Contracting Act of 1984."

Youth Engagement, Education, and Employment
Department of the Interior – Fish and Wildlife Service
Due Date: 09/15/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=323101
The U.S. Fish and Wildlife Service’s (USFWS or Service) National Wildlife Refuge System (NWRS) is accepting proposals from non-profit, state, and local government youth and veteran serving organizations with the interest and capacity to work cooperatively with the USFWS to develop introductory educational experiences in natural resource careers to young people and veterans, including culturally, ethnically and economically diverse students, and underserved communities that traditionally have low participation in outdoor recreation activities through hands-on experience and mentoring at a variety of USFWS programs including but not limited to, national wildlife refuges, fish hatcheries, and ecological services offices. Under this program, individuals and/or groups of youth, young adults, and veterans: Will be introduced to natural resource careers through hands-on work with, and training by, natural resource professionals employed by the USFWS may be given the opportunity to serve both seasonal and or year-round assignments. Will enhance conservation stewardship; increase outdoor recreation opportunities for all Americans and improve the management of game species and their habitats for this generation and beyond. Will be introduced to various real-world conservation and rehabilitation activities such as invasive species management, habitat restoration, wildlife management, public education and interpretation, disaster response and mitigation, and communications, mixed with informal and formal training sessions directed by USFWS employees during assignments. Will enhance and expand public access to lands and waters. Will be provided feedback for their future growth and may receive consideration for future employment with the USFWS.

NSF Dynamic Language Infrastructure – NEH Documenting Endangered Languages
National Science Foundation
Due Date: 09/15/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=320854
This funding partnership between the National Science Foundation (NSF) and the National Endowment for the Humanities (NEH) supports projects to develop and advance knowledge concerning dynamic language infrastructure in the context of endangered human languages—languages that are both understudied and at risk of falling out of use. Made urgent by the imminent loss of roughly half of the approximately 7000 currently used languages, this effort aims to exploit advances in information technology to build computational infrastructure for endangered language research. The program supports projects that contribute to data management and archiving, and to the development of the next generation of researchers. Funding can support fieldwork and other activities relevant to the digital recording, documentation and analysis, and archiving of endangered language data, including the preparation of lexicons, grammars, text samples, and databases. Funding will be available in the form of one- to three-year senior research grants, fellowships from six to twelve months, and conference proposals.
The Office of Naval Research (ONR), ONR Global, and the Marine Corps Warfighting Lab (MCWL) are interested in receiving proposals for Long-Range Science and Technology (S&T) Projects which offer potential for advancement and improvement of Navy and Marine Corps operations. Readers should note that this is an announcement to declare ONR’s broad role in competitive funding of meritorious research across a spectrum of science and engineering disciplines.

The U.S. Embassy Zimbabwe, Public Affairs Section is seeking proposals for projects throughout the fiscal year that; promote educational and cultural exchange, build the rule of law and fiscal transparency, encourage civic discourse and action against violence and corruption, support professionalization of the media, promote freedom of expression and information encourage entrepreneurship, economic growth, innovation and sound business practices, empower women and youth with specific knowledge of women’s rights and skills to enhance economic advancement, promote social inclusion and tolerance of underserved communities such as disabled persons, minority ethnic groups, LGBTQI, and those in remote rural areas, promote greater health awareness and livelihoods in HIV prevention and AIDS treatment, promote natural resource management and sustainable environmental practices including mitigation against climate change, combat the trafficking of animals, humans, and illicit materials and substances.

The purpose of this program is to support research, education/teaching, and extension projects that increase participation by women and underrepresented minorities from rural areas in STEM. NIFA intends this program to address educational needs within broadly defined areas of food, agriculture, natural resources, and human (FANH) sciences. Applications recommended for funding must highlight and emphasize the development of a competent and qualified workforce in the FAHN sciences. WAMS-funded projects improve the economic health and viability of rural communities by developing research and extension initiatives that focus on new and emerging employment opportunities in STEM occupations. Projects that contribute to the economic viability of rural communities are also encouraged.

The Environmental Engineering program is part of the Environmental Engineering and Sustainability cluster, which also includes 1) the Nanoscale Interactions program; and 2) the Environmental Sustainability program. Environmental engineering is an interdisciplinary field that applies chemical, biological, and physical scientific principles to protect human and ecological health. The goal of the Environmental Engineering program is to support potentially transformative fundamental research that applies scientific and engineering principles to 1) prevent, minimize, or re-use solid, liquid, and gaseous discharges of pollution to soil, water, and air by closing resource loops or through other measures; 2) mitigate the ecological and human-health impacts of such releases by smart/adaptive/reactive amendments or manipulation of the environment, and 3) remediate polluted environments through engineered chemical, biological, and/or geo-physical processes. Integral to achieving these goals is a fundamental understanding of the transport and biogeochemical reactivity of pollutants in the environment. Therefore, research on environmental micro/biology, environmental chemistry, and environmental geophysics may be relevant providing the research has a clear objective of protecting human and ecological health.
Support of Competitive Research (SCORE) Research Continuance Award
Department of Health and Human Services – National Institutes of Health
Due Date: Ongoing
https://www.grants.gov/web/grants/view-opportunity.html?oppId=321893
The SCORE Program is a developmental program designed to increase the research competitiveness of faculty and the research base at institutions with an explicitly stated historical mission and/or a demonstrated track record within the previous 10 years of training and graduating students from backgrounds underrepresented in biomedical research. Eligible institutions must award science degrees to undergraduate (B.S. or B.A.) and/or graduate students (M.S. or Ph.D.) and have received less than 6 million dollars per year of NIH R01 support (total costs) in each of the last 2 fiscal years.

AHRQ Mentored Research Scientist Career Development Award
Department of Health and Human Services – Agency for Health Care Research and Quality
Due Date: Ongoing
https://www.grants.gov/web/grants/view-opportunity.html?oppId=322822
The primary purpose of the AHRQ Mentored Research Scientist Career Development Awards (K01) program is to help ensure that a diverse pool of highly trained scientists is available in appropriate scientific disciplines to address the Nation's health services research needs. This AHRQ program provides support and protected time to individuals with a research doctoral degree for an intensive, supervised research career development experience in health services research. The K01 award can be used both by individuals who propose to newly embark in health services research training and those who had a hiatus in their research careers because of illness or family circumstances.
The Divisions of Chemical, Bioengineering and Environmental Transport (CBET) and Civil, Mechanical, and Manufacturing Infrastructure (CMMI) in the Engineering Directorate of the National Science Foundation (NSF) are partnering with The Center for the Advancement of Science in Space (CASIS) to solicit research projects in the general fields of tissue engineering and mechanobiology that can utilize the International Space Station (ISS) National Lab to conduct research that will benefit life on Earth. Only U.S. entities including academic investigators, non-profit independent research laboratories and academic-commercial teams are eligible to apply.

The National Science Foundation (NSF), through its Divisions of Electrical, Communications and Cyber Systems (ECCS), Computing and Communication Foundations (CCF), Molecular and Cellular Biosciences (MCB), and Materials Research (DMR) announces a follow-up solicitation on the Semiconductor Synthetic Biology for Information Storage and Retrieval Program (SemiSynBio-II). Future ultra-low energy storage-based computing systems can be built on principles derived from organic systems that are at the intersection of physics, chemistry, biology, computer science and engineering. Next-generation information storage technologies can be envisioned that are driven by biological principles and use biomaterials in the fabrication of devices and systems that can store data for more than 100 years with storage capacity 1,000 times more than current storage technologies. Such a research effort can have a significant impact on the future of information storage and retrieval technologies. This focused solicitation seeks high-risk/high-return interdisciplinary research on novel concepts and enabling technologies that will address the fundamental scientific issues and technological challenges associated with the underpinnings of synthetic biology integrated with semiconductor technology. This research will foster interactions among various disciplines including biology, physics, chemistry, materials science, computer science and engineering that will enable in heretofore unanticipated breakthroughs.

The Emerging Frontiers in Research and Innovation (EFRI) program of the NSF Directorate for Engineering (ENG) serves a critical role in helping ENG focus on important emerging areas in a timely manner. This solicitation is a funding opportunity for interdisciplinary teams of researchers to embark on rapidly advancing frontiers of fundamental engineering research. For this solicitation, we will consider proposals that aim to investigate emerging frontiers in one of the following two research areas: Distributed Chemical Manufacturing (DChem) Engineering the Elimination of End-of-Life Plastics (E3P). This solicitation will be coordinated with the Directorate for Biological Sciences, the Directorate for Mathematical and Physical Sciences and the Directorate for Social, Behavioral and Economic Sciences. EFRI seeks proposals with transformative ideas that represent an opportunity for a significant shift in fundamental engineering knowledge with a strong potential for long term impact on national needs or a grand challenge. The proposals must also meet the detailed requirements delineated in this solicitation.
Petrology and Geochemistry
National Science Foundation
Due Date: Ongoing
https://www.grants.gov/web/grants/view-opportunity.html?oppId=322906
The Petrology and Geochemistry Program supports basic research on the formation of planet Earth, including its accretion, early differentiation, and subsequent petrologic and geochemical modification via igneous and metamorphic processes. Proposals in this program generally address the petrology and high-temperature geochemistry of igneous and metamorphic rocks (including mantle samples), mineral physics, economic geology, and volcanology. Proposals that are focused on the development of analytical tools, theoretical and computational models, and experimental techniques for applications by the igneous and metamorphic petrology, and high temperature geochemistry and geochronology communities are also invited.

Interfacial Engineering
National Science Foundation
Due Date: Ongoing
https://www.grants.gov/web/grants/view-opportunity.html?oppId=320797
The Interfacial Engineering program is part of the Chemical Process Systems cluster, which also includes: 1) the Catalysis program; 2) the Electrochemical Systems program; and 3) the Process Systems, Reaction Engineering, and Molecular Thermodynamics program. The goal of the Interfacial Engineering program is to support fundamental research on atomic- and molecular-scale interfacial phenomena and engineering of interfacial properties, processes, and materials. Fundamental understanding of the thermodynamic, kinetic, and transport properties of interfacial systems underpins improvements in chemical process efficiency and resource utilization. As such, proposed research should have a clear vision for how the results will translate to practice in or otherwise advance industrial chemical or biochemical processes. The program encourages proposals that present new approaches to long-standing challenges or address emerging research areas and technologies. Collaborative and interdisciplinary proposals are also encouraged, particularly those that involve a combination of experiment with theory or modeling. Major research areas of interest in the program include:

- Chemical separations: Design of scalable mass separating agents (for example, sorbents and membranes); field-induced separation processes that target a significant reduction in energy and/or materials requirements.
- Biological separations: Downstream processing of biologically-derived chemicals, therapeutic proteins, and biologics for increased throughput and purity; engineering interfaces for molecular recognition.
- Interfacial phenomena at engineered interfaces and surfaces: Kinetics and thermodynamics of adsorption/desorption and complex interactions of molecules and ions at engineered interfaces and surfaces (for example, adsorption and nucleation).
- Nanoconfinement and engineered surfaces: Theory, modeling, and/or approaches for examining transport and thermodynamic properties of fluids within nanopores, under nanoconfinement, or at highly engineered surfaces.