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.
The Day of Service grant competition includes funding for both September 11th Day of Service and Remembrance (September 11th) and Martin Luther King Jr. Day of Service (MLK). Applicant organizations may apply for either September 11th, MLK, or both. Applicants may not submit more than one application for each Day of Service. The purpose of the September 11th National Day of Service and Remembrance grant funding is to mobilize more Americans to engage in service activities that meet vital community needs and honor the sacrifice of those who lost their lives on September 11, 2001, or who rose in service as a result of that tragedy. The purpose of the Martin Luther King Jr. Day of Service grant funding is to mobilize more Americans to observe the Martin Luther King Jr. federal holiday as a day of service in communities, to encourage those who serve on this holiday to make a long-term commitment to community service, and to bring people together to focus on service to others.

NSF Scholarships in Science, Technology, Engineering, and Mathematics Program
National Science Foundation
Due Date: 03/25/2020
A well-educated science, technology, engineering, and mathematics (STEM) workforce is a significant contributor to maintaining the competitiveness of the U.S. in the global economy. The National Science Foundation (NSF) Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) program addresses the need for a high quality STEM workforce in STEM disciplines supported by the program and for the increased success of low-income academically talented students with demonstrated financial need who are pursuing associate, baccalaureate, or graduate degrees in science, technology, engineering, and mathematics (STEM)[6], [16]. Recognizing that financial aid alone cannot increase retention and graduation in STEM, the program provides awards to Institutions of Higher Education (IHEs) to fund scholarships and to advance the adaptation, implementation, and study of effective evidence-based curricular and co-curricular activities that support recruitment, retention, transfer (if appropriate), student success, academic/career pathways, and graduation in STEM. The S-STEM program encourages collaborations among different types of participating groups, including but not limited to partnerships among different types of institutions; collaborations of STEM faculty and institutional, educational, and social science researchers; and partnerships among institutions of higher education and business, industry, local community organizations, national labs, or other federal or state government organizations, if appropriate. The program seeks to 1) increase the number of low-income academically talented students with demonstrated financial need obtaining degrees in S-STEM eligible disciplines and entering the workforce or graduate programs in STEM; 2) improve the education of future scientists, engineers, and technicians, with a focus on low-income academically talented students with demonstrated financial need; and 3) generate knowledge to advance understanding of how interventions or evidence-based curricular and co-curricular activities affect the success, retention, transfer, academic/career pathways, and graduation of low-income students in STEM. Scholars must be low-income, academically talented students with unmet financial need who are enrolled in an associate, baccalaureate or graduate degree program, with a major in an S-STEM eligible discipline. S-STEM Eligible Disciplines: Biological sciences (except medicine and other clinical fields) Physical sciences (including physics, chemistry, astronomy, and materials science) Mathematical sciences Computer and information sciences Geosciences Engineering Technology fields associated with the disciplines above (e.g. biotechnology, chemical technology, engineering technology, information technology).

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).
Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems
National Science Foundation
Due Date: 04/30/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=322461

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.
Long Range Broad Agency Announcement (BAA) for Navy and Marine Corps Science & Technology
Department of Defense – Office of Naval Research
Due Date: 09/30/2020
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.

Annual Program Statement, Public Affairs, U.S. Embassy Harare
Department of State – U.S. Mission to Zimbabwe
Due Date 09/30/2020
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.

Women and Minorties in STEM Fields
Department of Agriculture
National Institute of Food and Agriculture
Due Date: 1/21/2021
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.

Environmental Engineering
National Science Foundation
Due Date: Ongoing
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.
Understanding the Rules of Life: Microbiome Theory and Mechanisms
National Science Foundation
Due Date: 03/02/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=322253
The URoL:MTM program invites integrated, interdisciplinary proposals that develop theoretical predictive frameworks with well-designed experimental and/or computational approaches to generate and test hypotheses about the causal relationships within the microbiome, and among the microbiome, host, and environment. How these relationships affect robustness, resilience, and adaptability of individual organisms, populations, and communities are also of interest. Projects may apply existing ecological and evolutionary theory or develop new experimental, computational, or mathematical tools, models, and theory to: i) explain function and interactions in natural, experimental, and model microbiomes; ii) elucidate the molecular mechanisms that underlie communication between the host and the microbiome and among the members of the microbiome; and/or iii) comparatively analyze microbiomes to discover emergent properties that provide insight into the behavior of living systems.

Transport Phenomena Research at the International Space Station to Benefit Life on Earth
National Science Foundation
Due Date: 03/02/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=321273
The Division of Chemical, Bioengineering and Environmental Transport (CBET) in the Engineering Directorate of the National Science Foundation (NSF) is partnering with The Center for the Advancement of Science in Space (CASIS) to solicit research projects in the general field of fluid dynamics, particulate and multiphase processes, combustion and fire systems, thermal transport processes, and nanoscale interactions 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.

American Lobster Research Program
Department of Commerce
Due Date: 3/19/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=323581
The American lobster (Homarus americanus) is one of the most iconic modern American fisheries and total U.S. landings of lobster have steadily increased over the past 35 years. The American lobster fishery is one of the largest and most valuable fisheries along the Atlantic coast. In 2017, the American lobster fishery was the third highest value U.S. commercial species, valued at $594 million, behind salmon and crabs.
Rising ocean temperatures have caused global fish population distribution shifts, and studies suggest warming temperatures may also directly impact the migration, growth, maturity, and natural mortality of American lobster. Of equal concern are potential impacts to lobster larval mortality due to ecosystem and food web changes. Lobster habitat is also changing, although the degree to which is unknown. These changes present threats to the American lobster fishery in the Gulf of Maine, Georges Bank, and southern New England. Although lobster populations and landings in the Gulf of Maine and Georges Bank have been increasing since the late 1990s, young-of-year surveys began showing declines in 2012. The state of Maine, where more than seventy-five percent of lobsters harvested in the US were landed in 2017, continued to see lobster landings decrease below the five-year average in October of 2019. Gaps in scientific knowledge and economic uncertainties, such as recent regulatory adjustments regarding Atlantic herring, a primary bait for lobster, continue to drive the need for research to enhance understanding and investigate how these factors impact the American Lobster fishery.
FY2020 NOAA Ruth Gates Coral Restoration Innovation Grants
Department of Commerce
Due Date: 3/20/2020
The Ruth Gates Coral Restoration Innovation Grants is a tribute to the work and life of Dr. Ruth Gates and aims to build on her efforts to address the decline in coral reefs through innovative science and research. The work funded through this program is aimed at promoting long-term survival of corals by supporting the science needed to incorporate resilient corals into restoration activities and to enhance the efficiency of asexual and sexual coral restoration. The principal objectives of this grant program are to support innovative coral restoration research, to apply these innovative techniques to create resilient, genetically diverse, and reproductively viable populations of coral species, and to support the development of creative methods to improve coral outplanting efficiency and build resilient coral reef ecosystems. Projects funded through the Ruth Gates Restoration Innovation Grants will support: 1) research and development of interventions to improve coral resilience to environmental stressors, and 2) research, development, and field-testing of novel techniques to improve the efficiency and effectiveness of coral population enhancement.

Regional Vulnerability Assessments for Ocean Acidification (RVA-OA20)
Department of Commerce
Due Date: 03/27/2020
The purpose of this document is to advise the public that NOAA/OAR/Ocean Acidification Program (OAP) is soliciting proposals for collaborative projects of up to 3 years in duration that synthesize ocean acidification information at a regional scale (e.g. Large Marine Ecosystem, large estuary or collection of small estuaries, and state or collection of states in US waters) to determine where societal vulnerabilities to ocean acidification exist or are emerging, in order to provide actionable information for marine resource decision makers and/or bolster the resilience of the nation’s Blue Economy. This funding opportunity will not support the collection of new chemical or ecological observations or species response data. Social science data collection is permitted.

Earth System Model Development and Analysis
Department of Energy - Office of Science, Office of Science
Due Date: 3/31/2020
The DOE SC program in Biological and Environmental Research (BER) announces its interest in receiving research applications for Earth and Environmental Systems Modeling (EESM). The goal of the EESM portfolio within the BER program is to develop and demonstrate advanced modeling and simulation capabilities, in order to enhance the predictability of the Earth system over multiple temporal and spatial scales. The EESM vision is to provide the best possible information about the Earth’s evolving system: In addition to promoting understanding of the natural world, this knowledge could be used to inform planning for energy assets and infrastructures.

Fiscal Year 2021 National Sea Grant College Program Dean John A Knauss Marine Policy Fellowship
Department of Commerce
Due Date: 04/04/2020
The National Sea Grant College Program was enacted by U.S. Congress in 1966 (amended in 2008, Public Law 110-394) to support federal and state partnerships that harness the intellectual capacity of the nation’s universities and research institutions to solve problems and generate opportunities in coastal communities. This notice announces that applications may be submitted for the 2021 National Sea Grant College Program Dean John A. Knauss Marine Policy Fellowship (Sea Grant Knauss Fellowship Program). The National Sea Grant College Program (Sea Grant) anticipates funding not less than 35 applicants, of which those assigned to the Legislative branch will be approximately 14. Application packages will each propose a total of $74,000 in funding. This includes base funding for each award at $59,000 with optional host office travel up to an additional $15,000. If additional office-related travel funds beyond $15,000 are required, those funds will be administered through an amendment to the grant.
Facilitator of Marine Seismic Capabilities for the U. S. Research Community
National Science Foundation
Due Date: 04/10/2020

Proposals are solicited to support needs of the marine seismic research community for access to acquisition of long-offset and deep-imaging 3D seismic data using a large tuned source. These needs are currently provided by the specialized, seismic research vessel R/V Marcus G. Langseth (Langseth). The R/V Langseth is owned by the National Science Foundation and operated by the Lamont Doherty Earth Observatory (LDEO) of Columbia University. NSF has determined that it cannot adequately invest in the R/V Langseth or replace the vessel at the end of service life. Therefore, alternative approaches are necessary for providing the marine seismic research capability to support high priority research proposals. R/V Langseth will continue operations through September 2021, or no later than the Fall 2021 regulatory dry-docking, and will be divested. This NSF solicitation seeks proposals for a Facilitator of Marine Seismic Capabilities, herein referred to as a "Facilitator" or Facilitator Support Office "to work with researchers in identifying suitable vessels (commercial, foreign academic, or other) to support NSF-funded seismic research projects. The Facilitator will also be responsible for arranging and negotiating competitive lease agreements for marine seismic research activities that have been determined by NSF to be high priority projects following the merit review process. The Facilitator may also be asked to help support access to additional subsurface imaging techniques. The successful proposal for the Facilitator of Marine Seismic Capabilities will be administered as a Cooperative Agreement (CA) over a five-year period of performance.

Competition for the Management of Operations and Maintenance of the National Ecological Observatory Network (NEON)
National Science Foundation
Due Date: 6/19/2020

NSF solicits proposals to manage the operations and maintenance of the National Ecological Observatory Network (NEON), an NSF-funded major facility project. NEON comprises terrestrial, aquatic, atmospheric, and remote sensing measurement infrastructure and cyberinfrastructure that deliver standardized, calibrated data to the scientific community through a single, openly accessible data portal. NEON infrastructure is geographically distributed across the United States, including Alaska, Hawaii and Puerto Rico, and will generate data for ecological research over a 30-year period. NEON is designed to enable the research community to ask and address their own questions on a regional to continental scale around the environmental challenges identified as relevant to understanding the effects of climate change, land-use change and invasive species patterns on the biosphere. The NSF NEON program, which is part of the Centers and Cooperative Agreements Cluster in the Division of Biological Infrastructure, manages the NEON award in collaboration with the NSF Large Facilities Office and the NSF Division of Acquisition and Cooperative Support. The managing organization will work closely with NSF and the scientific community to ensure that NEON capabilities support and advance ecology and related sciences. In cooperation with NSF and within available resources, the awardee will plan and execute a viable, coherent, and inclusive program to support multi-user research and education, consistent with advice of the scientific community and NSF oversight. A single award will be made as a cooperative agreement with a duration of five years that is anticipated to begin in November 2021. NSF may renew the award for an additional five-years, subject to availability of funds, the Awardee’s satisfactory performance, and review of a cost proposal for the second 5-year period. NSF’s decision will be informed by the National Science Board Statement on Recompetition of Major Facilities (NSB 2015-45 or successor).

National Sea Grant College Program 2020 Special Projects
Department of Commerce
Due Date: 09/30/2020

The National Sea Grant College Program was enacted by U.S. Congress in 1966 (amended in 2008, Public Law 110-394) to support leveraged federal and state partnership that harness the intellectual capacity of the nation’s universities and research institutions to solve problems and generate opportunities in coastal communities. The purpose of this notice is to request proposals for special projects consistent with the focus areas outlined in the National Sea Grant College Program’s (Sea Grant) strategic plan, and to provide the general public with information and guidelines on how Sea Grant will select proposals and administer Federal assistance under this announcement. This announcement is a mechanism to encourage research or other projects that are not normally funded through Sea Grant national competitions. This opportunity is open only to Sea Grant Programs.
2020 National Fish Passage Program
Department of the Interior – Fish and Wildlife Service
Due Date: Continuous through 09/30/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=321478
The National Fish Passage Program (NFPP) is a voluntary program that provides direct technical and financial assistance to partners. The program works in partnership to provide fish (and other aquatic organisms) passage and restore aquatic connectivity for the benefit of federal trust resources. In doing so, the program aims to maintain or increase fish populations in order to improve ecosystem resiliency and to provide quality fishing experiences for the American people. Activities that restore fish passage also support the modernization of country’s infrastructure such as road culverts, bridges and water diversions. Example project types include dam removals, culvert replacements, and the installation of fishways. The NFPP is delivered through 51 Fisheries and Aquatic Conservation (FAC) Field Offices across all States and territories. FAC staff coordinate with project partners, stakeholders and other Service programs to identify and collaboratively implement projects within Regional priority areas. Project work plans are developed strategically, in coordination with partners, and with substantial involvement from FAC staff. Projects must advance the Service mission, promote biological diversity, and be based upon sound scientific biological principles. FAC and Service strategic plans inform the types of projects funded under this opportunity. Applicants seeking funding under this program should review the program strategic plan and also contact the regional NFPP Coordinator that corresponds to the location of the project for additional regional priorities prior to submitting an application for funding.

2020 National Fish Habitat Action Plan
Department of the Interior – Fish and Wildlife Service
Due Date: Contact local FHP to determine submittal deadline.
https://www.grants.gov/web/grants/view-opportunity.html?oppId=321454
The Fish and Wildlife Management Assistance Program provides technical and financial assistance to other federal agencies, states, local governments, Native American tribes, non-governmental organizations, citizen groups, and landowners for the conservation and management of fish and wildlife resources. This includes minimizing the establishment, spread, and impact of aquatic invasive species. Specifically, aquatic habitat conservation projects under this program must protect, restore, and enhance fish and aquatic habitats, as outlined in the National Fish Habitat Action Plan (Action Plan). Likewise, projects under this program, directly or indirectly, support and promote public access to recreational fishing opportunities and the sustainable use of other natural resources. Funded projects may be carried out by Fish Habitat Partnerships (FHPs) recognized by the National Fish Habitat Board (Board) or the partners of Board recognized FHPs. More information about the FHPs and their partners can be found online at www.fishhabitat.org.

Fluid Dynamics
National Science Foundation
Due Date: Ongoing
https://www.grants.gov/web/grants/view-opportunity.html?oppId=320491
The Fluid Dynamics program is part of the Transport Phenomena cluster, which also includes 1) the Combustion and Fire Systems program; 2) the Particulate and Multiphase Processes program; and 3) the Thermal Transport Processes program. The Fluid Dynamics program supports fundamental research toward gaining an understanding of the physics of various fluid dynamics phenomena. Proposed research should contribute to basic scientific understanding via experiments, theoretical developments, and computational discovery. Major areas of interest and activity in the program include: Turbulence and transition: High Reynolds number experiments; large eddy simulation; direct numerical simulation; transition to turbulence; 3-D boundary layers; separated flows; multi-phase turbulent flows; flow control and drag reduction. A new area of emphasis is high speed boundary layer transition and turbulence; the focus would be for flows at Mach numbers greater than 5 to understand cross-mode interactions leading to boundary layer transition and the ensuing developing and fully developed turbulent boundary layer flows. Combined experiments and simulations are encouraged. Bio-fluid physics: Bio-inspired flows; biological flows with emphasis on flow physics. Non-Newtonian fluid mechanics: Viscoelastic flows; solutions of macro-molecules. Microfluidics and nanofluidics: Micro-and nano-scale flow physics. Wind and ocean energy harvesting: Focused on fundamental fluid dynamics associated with renewal energy. Fluid-structure interactions: This is an NSF-AFOSR (Air Force Office of Scientific Research) joint funding area focused on theory, modeling and/or experiments for hypersonics applications. A small number of awards (depending on availability of funds and proposal quality) will be provided and will be jointly reviewed by NSF and AFOSR using the NSF panel format. Actual funding format and agency split for an award will be determined after the proposal selection process. The AFOSR program that participates in this initiative is the Program on High Speed Aerodynamics.
Environmental Sustainability
National Science Foundation
Due Date: Ongoing
The Environmental Sustainability program is part of the Environmental Engineering and Sustainability cluster together with 1) the Environmental Engineering program and 2) the Nanoscale Interactions program. The goal of the Environmental Sustainability program is to promote sustainable engineered systems that support human well-being and that are also compatible with sustaining natural (environmental) systems. These systems provide ecological services vital for human survival. Research efforts supported by the program typically consider long time horizons and may incorporate contributions from the social sciences and ethics. The program supports engineering research that seeks to balance society's need to provide ecological protection and maintain stable economic conditions. There are four principal general research areas that are supported: Industrial ecology: Topics of interest include advancements in modeling such as life cycle assessment, materials flow analysis, input/output economic models, and novel metrics for measuring sustainable systems. Innovations in industrial ecology are encouraged. Green engineering: Research is encouraged to advance the sustainability of manufacturing processes, green buildings, and infrastructure. Many programs in the Engineering Directorate support research in environmentally benign manufacturing or chemical processes. The Environmental Sustainability program supports research that would affect more than one chemical or manufacturing process or that takes a systems or holistic approach to green engineering for infrastructure or green buildings. Improvements in distribution and collection systems that will advance smart growth strategies and ameliorate effects of growth are research areas that are supported by Environmental Sustainability. Innovations in management of storm water, recycling and reuse of drinking water, and other green engineering techniques to support sustainability may also be fruitful areas for research. Ecological engineering: Proposals should focus on the engineering aspects of restoring ecological function to natural systems. Engineering research in the enhancement of natural capital to foster sustainable development is encouraged. Earth systems engineering: Earth systems engineering considers aspects of large scale engineering research that involve mitigation of greenhouse gas emissions, adaptation to climate change, and other global concerns. All proposed research should be driven by engineering principles, and be presented explicitly in an environmental sustainability context. Proposals should include involvement in engineering research of at least one graduate student, as well as undergraduates. Incorporation of aspects of social, behavioral, and economic sciences is welcomed.

Division of Environmental Biology
National Science Foundation
Due Date: Ongoing
The Division of Environmental Biology (DEB) Core Track supports research and training on evolutionary and ecological processes acting at the level of populations, species, communities, and ecosystems. DEB encourages research that elucidates fundamental principles that identify and explain the unity and diversity of life and its interactions with the environment over space and time. Research may incorporate field, laboratory, or collection-based approaches; observational or manipulative studies; synthesis activities; phylogenetic discovery projects; or theoretical approaches involving analytical, statistical, or computational modeling. Proposals should be submitted to the core clusters (Ecosystem Sciences, Evolutionary Processes, Population and Community Ecology, and Systematics and Biodiversity Sciences). DEB also encourages interdisciplinary proposals that cross conceptual boundaries and integrate over levels of biological organization or across multiple spatial and temporal scales. Research addressing ecology and ecosystem science in the marine biome should be directed to the Biological Oceanography Program in the Division of Ocean Sciences; research addressing evolution and systematics in the marine biome should be directed to the Evolutionary Processes or Systematics and Biodiversity Science programs in DEB. All DEB programs also encourage proposals that leverage NSF-supported data networks, databases, centers, and other forms of scientific infrastructure, including but not limited to the National Ecological Observatory Network (NEON), Environmental Data Initiative (EDI), and Integrated Digitized Biocollections (iDigBio). The Rules of Life Track supports integrative proposals that span population, species, community and ecosystem scales normally funded by DEB, to organismal, cellular and molecular scales typically funded by other divisions in the Biological Sciences. Discovery of fundamental principles and enabling infrastructure will advance understanding and further predict how key properties of living systems emerge from the interaction of genomes, phenotypes, and environment acting over space and time. This track provides opportunities to advance understanding of the Rules of Life by new mechanisms for review and funding of proposals that span two or more divisions in the Biological Sciences Directorate.
Transitions to Excellence in Molecular and Cellular Biosciences Research
National Science Foundation
Due Date: Ongoing
https://www.grants.gov/web/grants/view-opportunity.html?oppId=321697
The Division of Molecular and Cellular Biosciences (MCB) has developed a new opportunity to enable researchers with a strong track record of prior accomplishment to pursue a new avenue of research or inquiry. This funding mechanism is designed to facilitate and promote a PI’s ability to effectively adopt empowering technologies that might not be readily accessible in the PI’s current research environment or collaboration network. Transformative research likely spans disciplines and minimizing the practical barriers to doing so will strengthen research programs poised to make significant contributions. The award is intended to allow mid-career or later-stage researchers (Associate or Full Professor, or equivalent) to expand or make a transition in their research programs via a sabbatical leave or similar mechanism of professional development and then develop that research program in their own lab. This award will also enable the PI to acquire new scientific or technical expertise, facilitate the investigator’s competitiveness, and potentially lead to transformational impacts in molecular and cellular bioscience.

Engineering of Biomedical Systems
National Science Foundation
Due Date: Ongoing
https://www.grants.gov/web/grants/view-opportunity.html?oppId=320524
The Engineering of Biomedical Systems program is part of the Engineering Biology and Health cluster, which also includes: 1) the Biophotonics program; 2) the Biosensing program; 3) the Cellular and Biochemical Engineering program; and 4) the Disability and Rehabilitation Engineering program. The goal of the Engineering of Biomedical Systems (EBMS) program is to provide opportunities for creating fundamental and transformative research projects that integrate engineering and life sciences to solve biomedical problems and serve humanity in the long term. Projects are expected to use an engineering framework (for example, design or modeling) that supports increased understanding of physiological or pathophysiological processes. Projects must include objectives that advance both engineering and biomedical sciences. Projects may include: methods, models, and enabling tools applied to understand or control living systems; fundamental improvements in deriving information from cells, tissues, organs, and organ systems; or new approaches to the design of systems that include both living and non-living components for eventual medical use in the long term.