General

Evidence Based Decision Making in State and Local Jurisdictions: Initiative Review
Department of Justice - National Institute of Corrections
Due Date: 7/6/2020

The overarching goal of the Evidence Based Decision Making (EBDM) initiative is to establish and test articulated linkages (information tools and protocols) between the decisions of local criminal justice stakeholders and the application of human and organizational change principles (evidence-based practices) in achieving measurable reductions in pretrial misconduct and post-conviction risk of reoffending. The unique focus of the EBDM initiative is the review of locally developed criminal justice strategies that guide practice within existing statues and rules. The initiative intends to (1) improve the quality of information that jurisdictions use to make individual case decisions in local systems and (2) engage these systems as policymaking bodies to collectively improve the effectiveness and capacity of their decision making related to pretrial release/sentencing options. Local officials involved in the initiative included: judges, prosecutors, public defenders, police, human service providers, county executives, and administrators of jail, probation, and pretrial services agencies.

Fomenting research partnerships between the U.S. and the D.R.
Department of State - U.S. Mission to the Dominican Republic
Due Date: 7/6/2020

The Public Affairs Section (PAS) of the U.S. Embassy in Santo Domingo announces an open competition to support effective partnerships that will bolster and leverage U.S. - Dominican Republic higher education research collaboration and capacity building focused on issues exacerbated by the COVID-19 pandemic, including gender-based violence, public health, and access to education for vulnerable populations. Proposals should include at least one U.S. higher education institution and one Dominican higher education institution as joint implementers. The proposal should support the development of a sustainable and long lasting partnership between U.S. and Dominican higher education institutions and training and capacity building for Dominican students, faculty, and researchers.
YSEALI Regional Workshop: "Enhancing ASEAN Human Capital in Health"
Department of State - U.S. Mission to Vietnam
Due Date: 7/13/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=327382

U.S. Embassy Hanoi announces an open competition for organizations to submit applications to design, plan, and implement a three-day workshop (not inclusive of travel dates) in Hanoi, Vietnam for the Young Southeast Asian Leaders Initiative (YSEALI), pending the availability of funds. The three-day workshop in May 2021 will gather approximately 50-80 participants between 20-30 years of age from all ten ASEAN member states and Timor-Leste around the theme, “Enhancing ASEAN Human Capital in Health.” YSEALI is the U.S. government’s signature initiative to strengthen partnerships with emerging leaders in ASEAN member states (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam) and Timor-Leste. Program participants are encouraged to work across national borders to solve regional challenges, encompassed by the four pillars of YSEALI – economic growth, sustainable development, education, and civic engagement – and to strengthen the U.S.-ASEAN partnership. Through a variety of programs and engagements, YSEALI seeks to build the leadership capabilities of youth in the region, strengthen ties between the United States and Southeast Asia, and nurture a community of leaders who work across borders to solve shared issues.

Real-Time Transit Infrastructure and Rolling Stock Condition Assessment Demonstration Program
Department of Transportation - DOT/Federal Transit Administration
Due Date: 7/17/2020
https://www.grants.gov/web/grants/view-opportunity.html?oppId=327355

Notice of Funding Opportunity for Real-Time Transit Infrastructure and Rolling Stock Condition Assessment Demonstration Program. The Federal Transit Administration (FTA) announces the availability of $1.25 Million Public Transportation Innovation funds to projects that demonstrate innovative, effective approaches, practices, partnerships, and technologies that enhance public transportation effectiveness, increase efficiency, expand quality, promote safety, and improve the traveler’s experience. FTA is seeking applications for demonstration projects that deploy cutting edge technologies to provide real-time assessment of transit infrastructure and rolling stock conditions. The major goals of this program are to enhance asset management of infrastructure and safety through innovative technologies and allow a more effective way for transit agencies to assess, detect, monitor and track deficiencies and defects related to transit infrastructure.

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 pro-motes 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.
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

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 under-served 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.
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 NIH Directors Transformative Research Award Program supports individual scientists or groups of scientists proposing groundbreaking, exceptionally innovative, original, and/or unconventional research with the potential to create new scientific paradigms, establish entirely new and improved clinical approaches, or develop transformative technologies. For the program to support the best possible researchers and research, applications are sought which reflect the full diversity of the research workforce. Individuals from diverse backgrounds and from the full spectrum of eligible institutions in all geographic locations are strongly encouraged to apply to this Funding Opportunity Announcement. In addition, applications in all topics relevant to the broad mission of NIH are welcome, including, but not limited to, topics in the behavioral, social, biomedical, applied, and formal sciences and topics that may involve basic, translational, or clinical research. No preliminary data are required. Projects must clearly demonstrate, based on the strength of the logic, a compelling potential to produce a major impact in a broad area of relevance to the NIH. The NIH Directors Transformative Research Award is a component of the High-Risk, High-Reward Research program of the NIH Common Fund.

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
https://www.grants.gov/web/grants/view-opportunity.html?oppId=322155

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 Minorities in STEM Fields
Department of Agriculture National Institute of Food and Agriculture
Due Date: 1/21/2021
https://www.grants.gov/web/grants/view-opportunity.html?oppId=323150

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.

Mid-Career Enhancement Awards to Integrate Basic Behavioral, Biomedical, and/or Social Scientific Processes (K18 Basic Experimental Studies with Humans Required)
Department of Health and Human Services - National Institutes of Health
Due Date: 3/17/2023
https://www.grants.gov/web/grants/view-opportunity.html?oppId=327458

The OppNet Research Career Enhancement Award (K18) program invites applications from investigators who strive to expand their research trajectories through the acquisition of new knowledge and skills in the areas of basic psychological processes, sociological processes, and/or biomedical pathways expertise that is beyond and enhances their current areas of expertise. The program will support research training and career development experiences and a small-scale research project that will provide experienced investigators with the scientific competencies required to conduct independent research projects that more thoroughly investigate interrelationships among behavioral, biological, endocrine, epigenetic, immune, inflammatory, neurological, psychological, and/or social processes. Eligible candidates are independent investigators at mid-career faculty rank or level.
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 re-search training and those who had a hiatus in their research careers because of illness or family circumstances.
Physics and Engineering Science

Small-Scale Solid Oxide Fuel Cell Systems and Hybrid Electrolyzer Technology Development

Department of Energy Headquarters

Due Date: 7/8/2020

https://www.grants.gov/web/grants/view-opportunity.html?oppId=327354

This FOA will solicit applications for multiple areas of interest and will correspond to research outlined in the Department's August 2019 Report on the Status of the Solid Oxide Fuel Cell Program (https://www.energy.gov/fe/report-congress-status-solid-oxide-fuel-cell-program), to Congress and could include, but are not limited to the following: Small-scale (nominally 5-25 kWe) distributed generation SOFC systems. Hydrogen production from Solid State Electrolyzer Cell (SOEC) systems and reversible SOFC systems including improving and validating the materials and systems required for the improving the cost, performance and reliability of systems using natural gas or coal-derived syngas as fuel. Cleaning of coal-derived syngas for use as SOFC fuel and testing of single and multiple cells on syngas.

CyberCorps Scholarship for Services – Defending America’s Cyberspace

National Science Foundation

Due Date: 07/31/2020


Cyberspace has transformed the daily lives of people. Society’s overwhelming reliance on cyberspace, however, has exposed its fragility and vulnerabilities: corporations, agencies, national infrastructure and individuals continue to suffer cyber-attacks. Achieving a truly secure cyberspace requires addressing both challenging scientific and engineering problems involving many components of a system, and vulnerabilities that stem from human behaviors and choices. Examining the fundamentals of security and privacy as a multidisciplinary subject can lead to fundamentally new ways to design, build and operate cyber systems, protect existing infrastructure, and motivate and educate individuals about cybersecurity. The Cybersecurity Enhancement Act of 2014, as amended by the National Defense Authorization Act for FY 2018, authorizes the National Science Foundation, in coordination with the Office of Personnel Management and the Department of Homeland Security, to offer a scholarship program to recruit and train the next generation of information technology professionals, industry control system security professionals and security man-agers to meet the needs of the cybersecurity mission for federal, state, local, and tribal governments. The goals of the CyberCorps(R): Scholarship for Service (SFS) program are aligned with the U.S. National Cyber Strategy to develop a superior cybersecurity workforce. The SFS program welcomes proposals to establish or to continue scholarship programs in cybersecurity. All scholarship recipients must work after graduation for a federal, state, local, or tribal Government organization in a position related to cybersecurity for a period equal to the length of the scholarship. A proposing institution must provide clearly documented evidence of a strong existing academic program in cybersecurity. Such evidence can include designation by the National Security Agency and the Department of Homeland Security as a Center of Academic Excellence in Cyber Defense (CAE-CD), in Cyber Operations (CAE-CO) or in Research (CAE-R); or equivalent evidence documenting a strong program in cybersecurity.
The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is asking the scientific community to propose transdisciplinary research to develop or apply innovative approaches/methods to improve the estimates, better characterize the variability, and reduce the uncertainty concerning chemical exposures via soil and dust ingestion for children aged 6 months through 6 years.

AMO supports innovative, advanced-manufacturing applied research and development (R&D) projects that focus on specific, high-impact manufacturing technology and process challenges. AMO invests in foundational, energy-related, advanced-manufacturing processes (where energy costs are a determinant of competitive manufacturing) and broadly applicable platform technologies (the enabling base upon which other systems and applications can be developed). The competitively selected projects from this FOA will focus on developing next-generation manufacturing material, information, and process technologies that improve energy efficiency in energy-intensive and energy-dependent processes, and facilitate the transition of emerging, cost-competitive energy technologies to domestic production. AMO’s vision and mission, as well as the strategic goals, targets, and metrics for key technology focus areas, are described in the Draft AMO Multi-Year Program Plan (MYPP) available at: https://www.energy.gov/eere/amo/downloads/advanced-manufacturing-office-amo-multi-year-program-plan-fiscal-years-2017. AMO’s strategic goals supported by this FOA are to: Improve the productivity and energy efficiency of U.S. manufacturing; Reduce lifecycle energy and resource impacts of manufactured goods; Leverage diverse domestic energy resources in U.S. manufacturing, while strengthening environmental stewardship; Transition DOE supported innovative technologies and practices into U.S. manufacturing capabilities; Strengthen and advance the U.S. manufacturing workforce. This FOA integrates identified research opportunities across AMO into a single funding opportunity. AMO intends to fund high-impact, early- to mid-stage applied research through this FOA. Topics are organized in 3 main topic areas, as described below, with subtopics in each area. Topic 1: Efficiency Improvements in Advanced Manufacturing Processes Subtopic 1.1: Innovative Iron and Steelmaking Processes Subtopic 1.2: Enhanced Efficiency of Drying Processes Subtopic 1.3: Machine Learning to Increase Efficiencies in the Manufacturing of Large-Scale, High-Rate Aerostructures Subtopic 1.4: Integrated Additive Manufacturing Processes for Advanced Wind Blade Production Subtopic 1.5: Reducing Cost of Production of Ceramic Matrix Composites Used in High Temperature Applications. Topic 2: Efficiency Improvements in Chemical Manufacturing Subtopic 2.1: Advanced Chemical Manufacturing R&D Subtopic 2.2: Dynamic Catalyst Science with Data Analytics Topic 3: Connected, Flexible, and Efficient Manufacturing Facilities, Products, and Energy Systems Subtopic 3.1: Integrating Carbon Capture and Utilization into Industrial Processes Subtopic 3.2: Flexible CHP Demonstration in a District Energy System Integrated with a Renewably-Fueled Municipal Generating Station.
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.

NSF Directorate for Engineering – UKRI Engineering and Physical Sciences Research Council - Lead Agency Opportunity
National Science Foundation
Due Date: Ongoing

The Directorate for Engineering (ENG), Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET), the Division of Civil, Mechanical and Manufacturing Innovation (CMMI), and the Division of Electrical, Communications and Cyber Systems (ECCS) of the National Science Foundation and the Engineering, ICT and Manufacturing the Future Themes of the UK Engineering and Physical Sciences Research Council (EPSRC) are pleased to announce the ENG-EPSRC Lead Agency Opportunity. The goal of this opportunity is to reduce some of the barriers that researchers currently encounter when working internationally. The ENG-EPSRC Lead Agency Opportunity will allow US and UK researchers to submit a single collaborative proposal that will undergo a single review process. Proposals will be accepted for collaborative research in areas at the intersection of CBET, CMMI, and/or ECCS with the EPSRC Engineering, ICT and/or Manufacturing the Future Themes.

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. (Continued on next page.)
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.

Research in the Formation of Engineers
National Science Foundation
Due Date: Ongoing
https://www.grants.gov/web/grants/view-opportunity.html?oppId=319933

The goal of the Research in the Formation of Engineers (RFE) program is to advance our understanding of professional formation. It seeks both to deepen our fundamental understanding of the underlying processes and mechanisms that support professional formation and to demonstrate how professional formation is or can be accomplished. Ultimately RFE aims to transform the engineer-formation system, and thus the impact of proposed projects on this system must be described. Principal Investigators (PIs) should provide a roadmap detailing how they envision the proposed research will eventually broadly impact practice within the engineer-formation system, even if these activities are not within the scope of the submitted proposal. In order to accomplish its goals, RFE welcomes proposals in two categories: Research Projects, and Design and Development Projects. Research Projects address fundamental questions of professional formation, while Design and Development Projects provide new approaches to achieving professional formation.
In today’s increasingly networked, distributed, and asynchronous world, cybersecurity involves hardware, software, networks, data, people, and integration with the physical world. Society’s overwhelming reliance on this complex cyberspace, however, has exposed its fragility and vulnerabilities that defy existing cyber-defense measures; corporations, agencies, national infrastructure and individuals continue to suffer cyber-attacks. Achieving a truly secure cyberspace requires addressing both challenging scientific and engineering problems involving many components of a system, and vulnerabilities that stem from human behaviors and choices. Examining the fundamentals of security and privacy as a multidisciplinary subject can lead to fundamentally new ways to design, build and operate cyber systems, protect existing infrastructure, and motivate and educate individuals about cybersecurity. The goals of the SaTC program are to protect and preserve the growing social and economic benefits of cyber systems while ensuring security and privacy. The RDSP identified six areas critical to successful cybersecurity research and development: (1) scientific foundations; (2) risk management; (3) human aspects; (4) transitioning successful research into practice; (5) workforce development; and (6) enhancing the research infrastructure. The NPRS, which complements the RDSP, identifies a framework for privacy research, anchored in characterizing privacy expectations, understanding privacy violations, engineering privacy-protecting systems, and recovering from privacy violations. In alignment with the objectives in both strategic plans, the SaTC program takes an interdisciplinary, comprehensive and holistic approach to cybersecurity research, development, and education, and encourages the transition of promising research ideas into practice. The SaTC program welcomes proposals that address cybersecurity and privacy, and draw on expertise in one or more of these areas: computing, communication and information sciences; engineering; education; mathematics; statistics; and social, behavioral, and economic sciences. Proposals that advance the field of cybersecurity and privacy within a single discipline or interdisciplinary efforts that span multiple disciplines are each welcome. Proposals must be submitted pursuant to one of the following designations, each of which may have additional restrictions and administrative obligations as specified in this program solicitation. CORE: This designation is the main focus of the SaTC research program, spanning the interests of NSF’s Directorates for Computer and Information Science and Engineering (CISE), Engineering (ENG), Mathematical and Physical Sciences (MPS), and Social, Behavioral and Economic Sciences (SBE). EDU: The Education (EDU) designation will be used to label proposals focusing entirely on cybersecurity education. TTP: The Transition to Practice (TTP) designation will be used to label proposals that are focused exclusively on transitioning existing research results to practice.

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.
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 re-viewed 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 Pro-gram on High Speed Aerodynamics.

Disability and Rehabilitation Engineering
National Science Foundation
Due Date: Ongoing
https://www.grants.gov/web/grants/view-opportunity.html?oppId=320472

The Disability and Rehabilitation Engineering 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 Engineering of Biomedical Systems program. The Disability and Rehabilitation Engineering program supports fundamental engineering research that will improve the quality of life of persons with disabilities through: development of new technologies, devices, or software; advancement of knowledge regarding healthy or pathological human motion; or understanding of injury mechanisms. Research may be supported that is directed toward the characterization, restoration, rehabilitation, and/or substitution of human functional ability or cognition, or to the interaction between persons with disabilities and their environment. Areas of particular interest are neuroengineering and rehabilitation robotics. The program will also consider research in the areas of: new engineering approaches to understand healthy or pathological motion, both as a target for rehabilitation and as a means to characterize motion related to disability or injury; understanding injury at the tissue- or system-level such that interventions may be developed to reduce the impact of trauma and subsequent disability; or understanding the role of gut microbiota in modulating disability in the context of rehabilitation. Emphasis is placed on significant advancement of fundamental engineering knowledge that facilitates transformative outcomes.
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.

Thermal Transport Processes
National Science Foundation
Due Date: Ongoing
https://www.grants.gov/web/grants/view-opportunity.html?oppId=320471

The Thermal Transport Processes program is part of the Transport Phenomena cluster, which includes also 1) the Combustion and Fire Systems program; 2) the Fluid Dynamics program; and 3) the Particulate and Multiphase Processes program. The Thermal Transport Processes program supports engineering research projects that lay the foundation for new advances in thermal transport phenomena. These projects should either develop new fundamental knowledge or combine existing knowledge in thermodynamics, fluid mechanics, and heat and mass transfer to probe new areas of innovation in thermal transport processes. The program seeks transformative projects with the potential for improving basic understanding, predictability and application of thermal transport processes. Projects should articulate the contribution(s) to the fundamental knowledge supporting thermal transport processes and state clearly the potential application(s) impact when appropriate. Projects that combine analytical, experimental and numerical efforts, geared toward understanding, modeling and predicting thermal phenomena, are of great interest. Collaborative and interdisciplinary proposals for which the main contribution is in thermal transport processes fundamentals are also encouraged. Emphasis is placed on research that demonstrates how thermal transport phenomena affect the existence, behavior and dynamics of components and systems. Priority is given to insightful investigations of fundamental problems with clearly defined economic, environmental and societal impacts.