# FEDERAL GRANTS

<table>
<thead>
<tr>
<th>Grant Name</th>
<th>Alcohol Use Disorders: Behavioral Treatment, Services, and Recovery Research (R01/R03/R21) (NIH)</th>
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<tbody>
<tr>
<td>Summary:</td>
<td>This program encourages grant applications from institutions/organizations that propose to support research on behavioral treatment for alcohol use disorders; organizational, financial, and management factors that facilitate or inhibit the delivery of services for alcohol use disorders; and phenomenon of recovery from alcohol use disorders. Research objectives of this program include, but are not limited to, research within the following three broad research domains: behavioral therapies and mechanisms of behavioral change; health services research; and recovery research. Cutting across these domains, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) encourages studies on a number of special emphasis populations and topics including: treatment for PTSD and alcohol use disorders; treatment for adolescents; fetal alcohol spectrum disorders; health disparities/special populations; and use of novel methods and technologies. Funding is also available under the R01 and R03 mechanisms.</td>
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<tr>
<td>Eligibility:</td>
<td>There are no eligibility restrictions.</td>
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<tr>
<td>Dates:</td>
<td>After the submission window opens on September 16, 2015, standard dates apply. Optional letters of intent are due 30 days before the application submission due date.</td>
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<tr>
<th>Grant Name</th>
<th>Establishing Outcome Measures for Clinical Studies of Oral and Craniofacial Diseases and Conditions (R21) (NIH)</th>
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<tr>
<td>Summary:</td>
<td>The goal of this program is to support the development of well-founded outcome measures, including establishing their reliability and validity, for clinical studies of those with oral and craniofacial diseases and conditions. For example, projects could assess the feasibility of using a new experimental outcome measure that has the potential to enhance health-related research. Another example could include the unique and innovative use of an existing method of assessing one disease to explore the method's ability to measure another. The developed outcome assessment(s) may be used to diagnose or characterize a disease, its progression or severity, or it may serve as a clinical endpoint to measure treatment efficacy in future studies. Acceptable approaches for developing or validating measures may include observational or natural history studies, as long as the study proposed in the application develops or validates appropriate outcome measures. These could include patient-centered outcomes or technology-based measures. It is expected that multi-disciplinary teams with the necessary expertise (such as experts in oral health, engineering, behavioral sciences, epidemiology, biostatistics and/or clinical studies design) will be needed to design and conduct successful studies. Any treatments would be standard of care provided by regular caregivers, with treatment outcomes observed and analyzed for the study. Applications can include assessments of multiple measures.</td>
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Grant Name: **Peer Reviewed Alzheimer's Research Program (DoD)**

**Summary:** The Peer Reviewed Alzheimer's Research Program (PRARP) addresses the long-term consequences of traumatic brain injury (TBI) as they pertain to Alzheimer's disease (AD). Military personnel and other individuals who suffer from TBI face an increased risk for developing several long-term health problems. These conditions include Alzheimer's-like dementia, aggression, memory loss, depression, and symptoms similar to those of other neurological diseases.

Consistent with the PRARP's mission, the program faces five overarching challenges. These challenges represent longstanding research goals for the program, which include: addressing a paucity of research resources; addressing a paucity of clinical studies; diagnostic technologies, tests, or devices; quality of life; and caregiver burden.

PRARP has identified seven research focus areas to address these challenges: genomic/proteomics/bioinformatics; pathology of tau; roles of non-neuronal cells in TBI/AD pathogenesis; novel target identification; imaging; care interventions and quality of life; and caregiver support.

Current funding opportunities under this program include the convergence science research award, quality of life research award, and military risk factors research award.

**Eligibility:** Eligibility varies by subprogram.

**Dates:** Pre-applications are due by August 19, 2015, and full applications are due by November 25, 2015.

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Grant Name: **Epilepsy Idea Development Award (DoD)**

**Summary:** The intent of the Epilepsy Research Program (ERP) Idea Development Award is to solicit research to understand the magnitude and underlying mechanisms of Post Traumatic Epilepsy (PTE), especially in Service members and Veterans while benefiting the civilian community. There are two levels of awards: level one awards are intended to support investigator initiated research that may be high risk and or high gain, and level two awards are intended to support advanced studies that may be multidisciplinary in nature, and have multiple collaborators. Research identifying markers and mechanisms that support PTE are encouraged, including projects related to early detection, diagnosis, prognosis, comorbidity, or risk stratification.

**Eligibility:** Applicants must be at the assistant professor level or above (or equivalent).

**Dates:** Pre-applications are due by August 19, 2015, and full applications are due by November 24, 2015.

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Grant Name: **Reconstructive Transplantation Research Program (DoD)**
Summary: The Reconstructive Transplantation Research (RTR) program supports innovative, high-impact research in the field of reconstructive transplantation (RT), specifically vascularized composite allotransplantation (VCA)-focused research, also known as composite tissue allotransplantation (CTA). The RTR encourages applications that specifically address the transplantation of multiple tissues such as muscle, bone, nerve, and skin, as a functional unit (e.g., a hand, or face) from a deceased donor to a recipient with a severe injury through the following focus areas: immune system regulation; improved access to reconstructive transplantation; reconstructive transplantation rehabilitation; and graft surveillance-clinical monitoring. Current funding opportunities under this program include concept award, discovery award, translational research award, and a clinical trial award.

Eligibility: Eligibility varies by subprogram.

Dates: Deadlines vary by subprogram, with pre-application deadlines ranging from August 25, 2015 to September 16, 2015, and full application deadlines ranging from October 14, 2015 to December 1, 2015.

Grant Name: Research Methods in Health Statistics (R03) (CDC)

Summary: The purpose of this program is to develop and test statistical and survey methodology relevant to the conduct, analysis, and reporting of health surveys and vital records. Additionally, research using recently released National Center for Health Statistics (NCHS) data sets to examine health outcomes and related factors is eligible for support. This program seeks to support small research projects that can be carried out in a short period of time with limited resources. Types of projects that will be funded under this program include secondary analysis of existing data; small, self-contained research projects; pilot and feasibility studies; development and testing of statistical and survey methodology; and the development and testing of new survey technology.

Examples of topics of interest under this announcement include, but are not limited to: the development and refinement of innovative techniques for measurement of biomarkers in survey research including the collection of biological specimens such as urine or blood, or other physical measures such as heart rate, senses, blood pressure, height, and weight; the development and refinement of summary measures of health; and the development and refinement of measures of health insurance access and use.

Eligibility: There are no eligibility restrictions.

Dates: Applications are due by October 7, 2015. Optional letters of intent are due by September 2, 2015.

Grant Name: Nano-Bio Phenomena and Processes in the Environment (NSF)
Summary: The goal of the Nano-Bio Phenomena and Processes in the Environment (NPPE) program is to support research to further fundamental and quantitative understanding of the interactions of biological and ecological media with nanostructured materials and nanosystems, which include one- to three-dimensional nanostructured materials and heterogeneous nano-bio hybrid assemblies. Such nanostructured materials and systems frequently exhibit novel physical, chemical, and biological behavior in living systems and ecological matrices as compared to the bulk scale. This program supports research that explores the interaction of nanoscale materials and systems with both macro and nanoscale systems in biological and environmental media, as well as remediation solutions.

Proposals submitted to NPPE should address one or more of the following research areas:

- Characterization and exploration of interactions at the interfaces between nanostructure materials and nanosystems with surrounding biological and ecological media, including complex and heterogeneous composites;
- Development of predictive tools that are based on fundamental behavior of nanostructures within biological and ecological matrices to advance cost-effective and environmentally benign processing and engineering solutions over full life cycles;
- Examining the transport, interaction, and impact of nanostructured materials and nanosystems on biological systems; and
- Complex simulations of molecular systems at interfaces, with these simulations done in conjunction with experimental comparisons, and new theories and complex simulation approaches for determining the transport and transformation of nanoparticles in various media.

Eligibility: There are no eligibility restrictions.

Dates: After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

Grant Name: **Particulate and Multiphase Processes (NSF)**

Summary: The goal of the Particulate and Multiphase Processes (PMP) program is to support fundamental research on physico-chemical phenomena that govern particulate and multiphase systems, including flow of suspensions, drops and bubbles, granular and granular-fluid flows, behavior of micro- and nanostructured fluids, and self-assembly/directed-assembly processes that involve particulates. The program encourages transformative research to improve the basic understanding of particulate and multiphase processes with emphasis on research that demonstrates how particle-scale phenomena affect the behavior and dynamics of larger-scale systems. Although proposed research should focus on fundamentals, a clear vision is required that anticipates how results could benefit important applications in advanced manufacturing, energy harvesting, transport in biological systems, biotechnology, or environmental sustainability. Collaborative and interdisciplinary proposals are encouraged, especially those that involve a combination of experiment with theory or modeling. Major research areas of interest in the program include:

- Multiphase flow phenomena;
• Particle science and technology;
• Multiphase transport in biological systems; and
• Interfacial transport.

Eligibility: There are no eligibility restrictions.
Dates: After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

Grant Name: Biotechnology and Biochemical Engineering (NSF)
Summary: The Biotechnology and Biochemical Engineering (BBE) program supports fundamental engineering research that advances the understanding of cellular and biomolecular processes in engineering biology and eventually leads to the development of enabling technology for advanced manufacturing and/or applications in support of the biopharmaceutical, biotechnology, and bioenergy industries, or with applications in health or the environment. A quantitative treatment of biological and engineering problems of biological processes is considered vital to successful research projects in the BBE program.

Fundamental to many research projects in this area is the understanding of how biomolecules, cells and cell populations interact in their environment, and how those molecular level interactions lead to changes in structure, function, phenotype, and/or behavior. The program encourages highly innovative and potentially transformative engineering research leading to novel bioprocessing and manufacturing approaches, and proposals that address emerging research areas and technologies that effectively integrate knowledge and practices from different disciplines while incorporating ongoing research into educational activities.

Major areas of interest in the program include: metabolic engineering and synthetic biology for biomanufacturing; quantitative systems biotechnology; tissue engineering and stem cell culture technologies; protein engineering and design; single cell dynamics and modeling; and development of novel "omics" tools for biotechnology applications.

Eligibility: There are no eligibility restrictions.
Dates: After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

Grant Name: Biomedical Engineering (NSF)
Summary: The goal of the Biomedical Engineering (BME) program is to provide opportunities to develop novel ideas into discovery-level and transformative projects that integrate engineering and life sciences in solving biomedical problems that serve humanity in the long-term. BME projects must be at the interface of engineering and life sciences, and advance both engineering and life sciences. The projects should focus on high impact transformative methods and technologies. Projects should include methods, models and enabling tools of understanding and controlling living systems; fundamental improvements in deriving information from cells, tissues, organs, and organ systems; new approaches to the design of structures and materials for eventual medical use in the long-term; and novel methods for reducing health care costs through new technologies.

The long-term impact of the projects can be related to fundamental understanding of cell and tissue function, effective disease diagnosis and/or treatment, improved health care delivery, or product development. The BME program does not support clinical studies, or proposals having as their central theme drug design and delivery or the development of biomedical devices that do not include a living biological component. Furthermore, although research on biomaterials or cellular biomechanics may constitute a part of the proposed studies, such research cannot be the central theme or key focus area of the proposed work.

The program supports fundamental and transformative research in the following themes: molecular, cellular, and tissue approaches for advanced biomanufacturing; and neural engineering and brain mapping.

Eligibility: There are no eligibility restrictions.

Dates: After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

Grant Name: General and Age-Related Disabilities Engineering (NSF)

Summary: The General and Age Related Disabilities Engineering (GARDE) program supports fundamental engineering research that will lead to the development of new technologies, devices, or software that improve the quality of life of persons with disabilities. Research may be supported that is directed toward the characterization, restoration, and/or substitution of human functional ability or cognition, or to the interaction of persons with disabilities and their environment. Areas of particular interest are disability-related research in neuroengineering and rehabilitation robotics. Emphasis is placed on significant advancement of fundamental engineering knowledge that facilitates transformative outcomes. NSF discourages applications that propose incremental improvements. Applicants are encouraged to contact the Program Director prior to submitting a proposal.

Eligibility: There are no eligibility restrictions.

Dates: After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

Grant Name: Nano-Biosensing (NSF)
**Summary:** The Nano-Biosensing program supports fundamental engineering research on devices and methods for measurement and quantification of biological analytes. Proposals that incorporate emerging nanotechnology methods are especially encouraged. Areas of interest include:

- Proposals on multipurpose sensor platforms that exceed the performance of current state of the art measurement methods;
- Projects on novel transduction mechanisms and sensor designs suitable for measurement in practical matrix and sample-preparation free approaches. These include error-free detection of pathogens and toxins in food matrices, waterborne pathogens, parasites, toxins, biomarkers in body fluids, and others;
- Proposals that address highly selective bio-recognition elements which exhibit zero false negative responses;
- Nano-biosensors that enable measurement of kinetics and thermodynamics of biomolecular interactions in their native states, transmembrane transport, intracellular transport, and other biological phenomena; and
- Fundamental studies on surface functionalization and immobilization of bio-recognition molecules, orientation, activity, stability, and effectiveness at biosensor interfaces.

**Eligibility:** There are no eligibility restrictions.

**Dates:** After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

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**Grant Name:** Chemical and Biological Separations (NSF)

**Summary:** The goal of the Chemical and Biological Separations (CBS) program is to generate novel methods and materials for separation processes. These processes are central to the chemical, biochemical, materials, energy, and pharmaceutical industries. A fundamental understanding of the interfacial, transport, and thermodynamic behavior of multiphase chemical systems as well as quantitative descriptions of processing characteristics in the process-oriented industries is critical for efficient resource management and effective environmental protection. The program encourages proposals that address emerging research areas and technologies, have a high degree of interdisciplinary work coupled with the generation of fundamental knowledge, and the integration of education and research.

Research topics of particular interest include fundamental molecular-level work on:

- Nanostructured materials for separations;
- Biorenewable resource separation processes;
- Purification of drinking water;
- Field induced separations; and
- Separation of molecular constituents from blood.

**Eligibility:** There are no eligibility restrictions.

**Dates:** After the submission window opens on October 1, 2015, applications are due by October 20, 2015.
Grant Name: **Combustion and Fire Systems (NSF)**

Summary: The goal of the Combustion and Fire Systems program is to generate cleaner global and local environments, enhance public safety, improve energy and homeland security, manufacture new materials, and enable more energy-efficient manufacturing.

The program endeavors to create basic engineering knowledge and solutions that are needed to develop useful combustion applications and for mitigating the effects of fire. Additional outcomes of interest for this program include: broad-based tools - experimental, diagnostic, and computational - that can be applied to a variety of problems in combustion and fire systems; science & technology for clean and efficient generation of power, both stationary and mobile; combustion science and technology for energy-efficient manufacturing; research that enables clean global and local environments (reduction in combustion generated pollutants such as GHGs, NOx, Soot, etc.); enhanced public safety and homeland security through research on fire growth, inhibition and suppression; and, educate and train an innovative workforce for power, transportation, and manufacturing industries.

Research areas of interest for this program include:

- Basic combustion science;
- Combustion science related to climate change; and
- Fire prevention.

Eligibility: There are no eligibility restrictions.

Dates: After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

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Grant Name: **Environmental Engineering (NSF)**

Summary: The goal of the Environmental Engineering program is to encourage transformative research which applies scientific and engineering principles to avoid or minimize solid, liquid, and gaseous discharges, resulting from human activities on land, inland and coastal waters, and air, while promoting resource and energy conservation and recovery. The program also fosters cutting-edge scientific research for identifying, evaluating, and monitoring the waste assimilative capacity of the natural environment and for removing or reducing contaminants from polluted air, water, and soils. Major areas of interest include: enhancing the availability of high quality water supplies; and fate and transport of contaminants of emerging concern in air, water, and soils.

Eligibility: There are no eligibility restrictions.

Dates: After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

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Grant Name: **Fluid Dynamics (NSF)**

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Summary: The Fluid Dynamics program supports fundamental engineering research on mechanisms and phenomena governing fluid flow from the molecular to the macroscopic scale. Proposed research should contribute to basic understanding of fluid flow phenomena, thus enabling the better design, predictability, efficiency, and control of systems that involve fluids. Areas of emphasis are proposals that address the behavior of new fluid materials and innovative uses of fluids in manufacturing, energy and the environment, materials development, biotechnology, sensor development, clinical diagnostics and drug delivery. While the research should focus on fundamentals, a clear connection to potential applications with significant societal/technological impact should be outlined.

Major areas of interest include:

- Bio-inspired fluid mechanics and bio-flows;
- Flow of complex fluids;
- Micro- and Nano-fluidics;
- Turbulence and transition;
- Interfacial interactions and instabilities; and
- Instrumentation and flow diagnostics.

Eligibility: There are no eligibility restrictions.

Dates: After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

Grant Name: Process Systems, Reaction Engineering, and Molecular Thermodynamics (NSF)

Summary: The goal of the Process Systems, Reaction Engineering and Molecular Thermodynamics (PRM) program is to advance fundamental engineering research on the rates and mechanisms of important classes of catalyzed and uncatalyzed chemical reactions as they relate to the design, production, and application of catalysts, chemical processes, biochemical processes, and specialized materials that have important impacts on society. The program seeks to advance electrochemical and photochemical processes of engineering significance or with commercial potential, design and optimization of complex chemical and biochemical processes, thermodynamic modeling and experiments that relate molecular dynamics to macroscopic properties and behavior, dynamic modeling and control of process systems and individual process units, reactive processing of polymers/ceramics/thin films, and interactions between chemical reactions and transport processes in reactive systems, for the integration of this information into the design of complex chemical and biochemical reactors.

Proposals should focus on:

- Chemical reaction engineering;
- Process design and control;
- Reactive polymer processing; and
- Molecular thermodynamics.

Eligibility: There are no eligibility restrictions.

Dates: After the submission window opens on October 1, 2015, applications are due by October 20,
Grant Name: **Energy for Sustainability (NSF)**

Summary: The goal of the Energy for Sustainability program is to support fundamental engineering research that will enable innovative processes for the sustainable production of electricity and fuels. Processes for sustainable energy production must be environmentally benign, reduce greenhouse gas production, and utilize renewable resources. Current topics of interest include:

- Biomass conversion, biofuels, and bioenergy;
- Photovoltaic solar energy;
- Advanced batteries for transporation and renewable energy storage; and
- Wind energy.

Eligibility: There are no eligibility restrictions.

Dates: After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

Grant Name: **Thermal Transport Processes (NSF)**

Summary: The Thermal Transport Processes (TTP) program supports engineering research aimed at gaining a basic understanding of the thermal transport phenomena and processes that are driven by thermal gradients, and manipulation of these processes to achieve engineering goals. Of specific interest is research that explores active and passive control of the dynamics of thermal processes, and simulations and experiments that bridge and model information across multiple scales. Application areas of interest include: cooling and heating of components, devices and equipment; and thermal transport processes in energy conversion and storage, power generation, physiologic systems, and propulsion.

Eligibility: There are no eligibility restrictions.

Dates: After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

Grant Name: **Biophotonics (NSF)**

Summary: The goal of the Biophotonics program is to explore the research frontiers in photonics principles, engineering, and technology that are relevant for critical problems in fields of medicine, biology, and biotechnology. Fundamental engineering research and innovation in photonics is required to lay the foundations for new technologies beyond those that are mature and ready for application in medical diagnostics and therapies. Advances are needed in nanophotonics, optogenetics, contrast and targeting agents, ultra-thin probes, wide field imaging, and rapid biomarker screening. Low cost and minimally invasive medical diagnostics and therapies are key motivating application goals. Research topics of interest include:
- Macromolecule markers;
- Low coherence sensing at the nanoscale;
- Neurophotonics;
- Micro- and nano-photonics; and
- Optogenetics.

**Eligibility:** There are no eligibility restrictions.

**Dates:** After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

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**Grant Name:** Environmental Sustainability (NSF)

**Summary:** 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, green engineering, ecological engineering, and earth systems engineering.

**Eligibility:** There are no eligibility restrictions.

**Dates:** After the submission window opens on October 1, 2015, applications are due by October 20, 2015.

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**Grant Name:** Catalysis and Biocatalysis (NSF)

**Summary:** The goal of the Catalysis and Biocatalysis program is to advance research in catalytic engineering science and promote the development of catalytic materials and reactions that are of benefit to society. Research in this program should focus on new basic understanding of catalytic materials and reactions, utilizing synthetic, theoretical, and experimental approaches. Target applications include fuels, specialty and bulk chemicals, environmental catalysis, biomass conversion to fuels and chemicals, conversion of greenhouse gases, and generation of solar hydrogen, as well as efficient routes to energy utilization.

Heterogeneous catalysis and biocatalysis represent the main thrusts of the program. Proposals related to both gas-solid and liquid-solid heterogeneous catalysis are welcome, as are proposals that incorporate concepts from homogeneous catalysis. Biocatalysis proposals should focus on enzymatic catalysis involving engineering of the active site involved in substrate conversion.

**Eligibility:** There are no eligibility restrictions.

**Dates:** After the submission window opens on October 1, 2015, applications are due by
FOUNDATION GRANTS

Grant Name: **Benign Essential Blepharospasm Research Foundation Seeks Applications for Blepharospasm/Meige Research**

Summary: Blepharospasm is a neurological condition characterized by forcible closure of the eyelids. The purpose of the Benign Essential Blepharospasm Research Foundation is to undertake, promote, develop, and carry on the search for the cause and a cure for benign essential blepharospasm and other related disorders and infirmities of the facial musculature.

To that end, the foundation will award grants of up to $150,000 to support research projects directly related to blepharospasm or Meige's Syndrome, both of which are forms of cranial dystonia. Projects must relate specifically to benign essential blepharospasm and Meige and include new treatments, pathophysiology, and genetics, photophobia, and dry eye.

Eligibility: To be eligible, the project's principal investigator must possess an M.D. or Ph.D.

Dates: Applications are due by August 31, 2015.

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Grant Name: **Simons Foundation Accepting Applications for Fellowships in Mathematics and Theoretical Physics**

Summary: The Simons Foundation's mission is to advance the frontiers of research in mathematics and the basic sciences. To that end, the foundation is inviting applications for the 2016 Simons Fellows Programs in both mathematics and theoretical physics.

Through the programs, the foundation will award grants of up to $100,000 to university faculty in mathematics or theoretical physics for a semester-long research leave from classroom teaching and administrative obligations as a way to boost their creativity and/or provide intellectual stimulation. The goal of the program is to make it easier to take such leaves, or to extend sabbatical leaves by an extra half year.

Eligibility: To be eligible, all applicants must have a teaching or administrative position at a U.S. or Canadian college or university through the term following the leave. In addition, applicants must have an active current research program.

Dates: Applications are due by September 30, 2015.