NJIT Research Newsletter

Issue: ORN-2018-23

NJIT Research Newsletter includes recent awards, and announcements of research related seminars, webinars, national and federal research news related to research funding, and ***Grant Opportunity Alerts***. The Newsletter is posted on the NJIT Research Website http://www.njit.edu/research/ .

Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

NSF: Division of Physics: Investigator-Initiated Research Projects (PHY); Operation Engineering; Mind, Machine and Motor Nexus (M3X); Humans, Disasters, and the Built Environment (HDBE); Civil Infrastructure Systems (CIS); Engineering Design and System Engineering (EDSE); Dynamics, Control and Systems Diagnostics (DCSD; Biomechanics and Mechanobiology (BMMB); Advanced Manufacturing; Division of Chemistry: Disciplinary Research Programs (CHE-DRP); Electrochemical Systems; Biosensing; Biological and Environmental Interactions of Nanoscale Materials
NIH: Lab to Marketplace: Tools for Brain and Behavioral Research (R43/R44); BRAIN Initiative Advanced Postdoctoral Career Transition Award to Promote Diversity (K99/R00); NIH Director's New Innovator Award Program (DP2); NIH Director's Transformative Research Award (R01); Exploratory Team-Research BRAIN Circuit Programs - eTeamBCP (U01); BRAIN Initiative: Development and Validation of Novel Tools to Probe Cell-Specific and Circuit-Specific Processes in the Brain (R01); NIH Director's Pioneer Award (DP1)
Department of Defense/US Army/DARPA/ONR: Research Interests of the Air Force Office of Scientific Research; DoD Orthotics and Prosthetics Outcomes, Clinical Research Award; Spinal Cord Injury Research Program Investigator-Initiated Research Award; DoD Hearing Restoration Focused Applied Research Award; Defense Science, Technology, Engineering, and Mathematics (STEM) Education Consortium (DSEC) Cooperative Agreement; DoD Autism Idea Development Award
Department of Education: Institute of Education Sciences (IES)
Department of Energy: Integrated University Program (IUP)
NASA: ROSES 2018: DSCOVR Science Team; Space Technology Research Institutes (STRI)Appendix; ROSES 2018: Heliophysics Space Weather Operations to Research; Early Stage Innovation (ESI)
National Endowment of Humanities: Infrastructure and Capacity Building Challenge Grants

Arnold and Mabel Beckman Foundation: Beckman Young Investigator Award
PVA Foundation: PVA Research Grant

Special Announcement

Call For Proposals

NJIT Faculty Seed Grant Awards – 2018-19

Proposal Submission Deadline to College/School Dean: September 5, 2018

Purpose:

NJIT "2020 Vision" strategic plan targets on substantial increase in academic research and external funding with faculty and student professional development. The purpose of the NJIT Faculty Seed Grant (FSG) initiative is to promote academic research in the core and interdisciplinary areas by providing seed funding to obtain preliminary results or establish hypotheses for developing future grant proposals for submission to external funding agencies. The FSG initiative specifically seeks seed funding proposals from faculty to launch new initiatives in core and interdisciplinary emerging areas aligned with NJIT strategic tactics to develop critical research mass.

Eligibility and Type of Awards:

NJIT full-time faculty with specific research initiative to enhance the critical mass in key and emerging areas may apply to FSG program for internal funding with a budget of $7500 per project over the FY18 ending June 30, 2018. Multidisciplinary projects with strong recommendation and justification from College/School Dean will be considered at the funding level of $10,000 subject to availability of funds.

It is expected that about 20 FSG awards will be made this year. Funding is arranged through the Offices of Research and College/School Deans.

Recipients of FSG as lead faculty are not eligible to receive another FSG award as lead faculty within three years from the last FSG award. Projects funded by FSG are not eligible to receive another FSG as the intent of internal seed funding is to facilitate initial research towards obtaining external funds to pursue research.

Allowable Expenses include Project supplies and small equipment, travel to conferences and/or funding agencies, travel expenses for funding agency people to visit NJIT, student hourly wages. Faculty summer salary, AY release and any stipend are not permitted in the budget.

Deadlines:

CFP Announcement: June 1, 2018

FSG Proposal Due in the Office of College/School Dean: September 5, 2018

College/School Dean Recommendations to Office of Research: September 15, 2018

Institutional Review and Announcement of Awards: September 21, 2018

Period of Award: October 1, 2017– June 30, 2018 (no extension will be available)

Review Process and Criterion:

All Proposals will be reviewed within the College/School to which PI is affiliated. College/School Dean will make the recommendation of top ranked proposals based on the reviews from the College/School review committee, which will be forwarded to the Office of Research for further review and discussion with Deans leading to the announcement of awards.

Review criterion primarily includes the scientific merit of the proposal, and potential of external funding. Additional criterion includes significance of project goals, fit to the NJIT strategic research clusters and emerging trends towards developing critical mass in key areas, justification of internal funding, expected outcomes, and faculty expertise.

Other Requirements: Faculty receiving FSG awards will submit a full proposal to external funding agencies within six months from the end date of the award. They will also participate in the NJIT Faculty Research Showcase and Panel Discussion events in Spring semester.

Required FSG Proposal Format:

The main proposal (sections 2-7 in the required FSG proposal format below) is limited to 5 pages with single spaced 12 point font size. The page limit does not include the cover sheet, budget and budget justification (maximum one page) and list of references (maximum one page). In addition up to 2 pages of biographical sketch and 1 page of current and pending support are required for PI and each investigator. Please see the proposal format guidelines below.

The main proposal should have the following sections:

1. Cover Sheet:

    Title of the Project

    Principal and Co-Principal Investigators

    Department

    College

    Date Submitted

    PI and Co-PI (if multiple investigators) Signatures

2. Abstract (Maximum 250 words; Non-IP for public dissemination):

    (Please summarize briefly on):

    a. Project Goal(s)

b. Significance

c. Expected Outcomes

d. Justification of Internal Funding

3. Specific Objectives

4. Methods and Procedures

5. Evaluation and Deliverables

6. Future Plans

(Describe how the project funding with the deliverables will help in future proposal submissions, enhancing the research synergy, and obtaining external funds)

7. Justification of Internal Funding

(Describe what other funds are available and why additional internal funding is needed)

8. Budget and Budget Justification (maximum 1 page)

9. References (maximum 1 page)

10. Appendix (for PI and each Co-PI/Investigator):

a. PI Biographical Sketch (NSF/NIH or Federal Agency Format; maximum 2 pages per investigator)

b. Other Grant Support (maximum 1 page per investigator; summarize specific project goal(s) for each grant and any overlap with this proposal)

Recent Research Grant and Contract Awards

Congratulations to faculty and staff on receiving research grant and contract awards!

PI: Wenda Cao (PI), Chang Liu (Co-PI), Haimin Wang (Co-PI) and Vasyl Yurchyshyn (Co-PI)
Department: Center for Solar Terrestrial Research
Grant/Contract Project Title: High-Resolution Studies of Solar Activity Using the 1.6-meter Telescope in Big Bear
Funding Agency: NSF
Duration: 06/15/18-05/31/23

PI: Louis Lanzerotti (PI) and Andrew Gerrard (Co-PI)
Department: Center for Solar Terrestrial Research
Grant/Contract Project Title: Van Allen Probes RBSPICE Phase E Operations - Extended Missions I and II (ARDES)
Funding Agency: NASA
Duration: 07/15/16-12/31/18

PI: Angel-Rualdo Soto-Chavez (PI)
Department: Center for Solar Terrestrial Research
Grant/Contract Project Title: GEM: The Generation of Falling-Tone Chorus and Scattering of Particles by Chirped Waves
Funding Agency: NSF
Duration: 06/01/16-05/31/19

PI: Haimin Wang (PI), Vasyl Yurchyshyn (Co-PI), Na Deng (Co-PI), and Yan Xu (Co-PI)
Department: Center for Solar Terrestrial Research
Grant/Contract Project Title: Collaborative Research: SHINE: Study of Long-Term Variability of Solar Chromospheric Activity in Multiple Solar Cycles
Funding Agency: NSF
Duration: 06/15/16-05/31/19

PI: Treena Arinzeh (PI) and Sharareh Hashemi (Co-PI)
Department: Biomedical Engineering
Grant/Contract Project Title: Spinal Cord Fellowship 2018
Funding Agency: NJDOH
Duration: 06/01/18-05/31/20

PI: Namas Chandra (PI), Bryan Pfister (Co-PI) and Maciej Skotak (PI)
Department: Institute of Brain and Neuroscience Research
Grant/Contract Project Title: Fundamental Understanding of the Mechanism of Blast-Induced Traumatic Brain Injury Using in vitro Neuronal Models
Funding Agency: U.S. Army (Army Research Laboratory)
Duration: 09/28/15-05/31/19

In the News…

(National and Federal News Related to Research Funding and Grant Opportunities)

Appropriations Committee Releases the Fiscal Year 2019 Labor, Health and Human Services, Education Funding Bill: The House Appropriations Committee today released the draft fiscal year 2019 Labor, Health and Human Services, and Education (LHHS) funding bill, which will be considered in subcommittee tomorrow. The legislation includes funding for programs within the Departments of Labor, Health and Human Services, and Education, and other related agencies, including the Social Security Administration.

In total, the draft bill includes $177.1 billion in discretionary funding, essentially the same as the 2018 enacted level. The bill targets investments in medical research, public health, biodefense, education, and important activities that help promote job readiness. The legislation also includes several provisions to rein in unnecessary regulations and to protect the sanctity of life.

"This bill funds critical programs that will protect and save lives both now and in the future, and help prepare the next generation to be part of a productive workforce to grow our economy and provide for their families. This includes investments in vital research to cure diseases such as

cancer and Alzheimer's, job training, college preparation, and special education programs, and protections against health threats such as pandemics and bio-threats," House Appropriations Chairman Rodney Frelinghuysen said.

"Once again, the Labor, Health and Human Services, Education and Related Agencies appropriations bill prioritizes and reflects the values that Americans truly care for. For the fourth consecutive year, the bill allocates increased funds for the National Institutes of Health at $1.25 billion, for a total of $38.3 billion. These funds will greatly benefit numerous medical research programs, combat opioid abuse and support the search for cures for many cancers and diseases. Additionally, the bill includes increases for important education programs like TRIO, career and technical education, and early childhood education initiatives. Provisions related to the protection of human life are continued in this year's bill as well. The report is posted on the website https://appropriations.house.gov/news/documentsingle.aspx?DocumentID=395353.

Senate Appropriators Boost NSF AND NASA, SLASH NIST and NOAA: The National Science Foundation would get $8.1 billion, $301 million above the FY2018 enacted level and $597 million more than in President Trump's budget. NASA would get $21.3 billion, $587 million above the FY2018 enacted level and $1.43 billion above the budget request. The National Institute of Standards and Technology would get $1.04 billion for NIST, $161 million below the FY2018 enacted level, and the National Oceanic and Atmospheric Administration $5.48 billion, a $426 million decrease cut from the current level. The Senate Appropriations Committee had more money to work with, but also had to devote nearly $3 billion to the census and a crime victims' fund.

STEM Opportunities: This new account at NASA, which Senate appropriators propose to fund at $110 million, "funds STEM education activities to educate and inspire our next generation of explorers and innovators." In other instructions, the space agency is encouraged "to partner with academic institutions that have strong capabilities in aviation, aerospace structures, and materials testing and evaluation." The report is posted on the website https://appropriations.house.gov/news/documentsingle.aspx?DocumentID=395353.

Report on Defense Authorization Act: A report accompanying the pending fiscal 2019 National Defense Authorization Act (NDAA) seeks to expand the department's missions to include space, infrastructure resilience, and photonics. This would allow for "one or more multi-institution task order contracts, consortia, cooperative agreements, or other arrangements with universities that do not have similar existing constructs to facilitate expedited access to university technical expertise in support of Department of Defense mission areas.

Expand 3-D Manufacturing: The Senate Armed Services Committee thinks additive manufacturing could "greatly improve the defense industrial base's ability to respond to military readiness demands when original equipment manufacturers are unable to meet or to fabricate obsolete parts that are no longer manufactured." A NDAA provision would establish three demonstration projects "to develop military and quality assurance standards as quickly as possible and leverage current manufacturing institutes to conduct research in the validation of quality standards for additive manufactured parts."

QUANTUM R&D: The NDAA would authorize a defense quantum information science and technology research and development program "aimed at ensuring that the U.S. military is able to most effectively leverage" this emerging field. Quantum science "shows the promise of: (1) Producing computers that will exceed the capabilities of all known traditional

computers; (2) Enabling communication systems that enhance cryptography and the speed of communications; and (3) Developing measurement devices and sensors with heretofore unachievable precision and sensitivity"--all of which has significant commercial as well as military potential. The provision calls for coordination of quantum research within DoD and "robust interagency collaboration," for instance with the Department of Energy and National Institute of Standards and Technology.

UNIVERSITY TALENT, AI, AND MATERIALS: NDAA provisions would allow "expedited access to talent and expertise at academic institutions" and also "focus and coordinate" DoD efforts on artificial intelligence. The Senate panel is also enthusiastic about human factors engineering and improvement of materials for aerospace and defense. In addition, the committee "recognizes the work done by the Critical Materials Institute (CMI) to focus on technologies that make better use of rare earth materials and eliminate the need for rare earth materials that are subject to supply disruptions."

DOMESTIC VIOLENCE AND TBI: Traumatic brain injury can put service members "at high risk for long-term negative consequences to brain health, including the development of chronic neuro-degenerative disease," the Senate panel says. But the cause is not limited to repeated blasts and blast injuries. "Survivors of intimate partner violence (IPV) are at increased risk of traumatic brain injuries (TBI), but these injuries often go undiagnosed, which can lead to serious short- and long-term health problems. Currently, there are few research studies available on the relationship between IPV and TBI."

NSF Engineering Drops Deadlines: This "important change," effective August 15, applies to "unsolicited proposals to all core programs in the Divisions of Chemical, Bioengineering, Environmental and Transport Systems (CBET), Civil, Mechanical and Manufacturing Innovation (CMMI), Electrical, Communications and Cyber Systems (ECCS), and Engineering Education and Centers (EEC)," says a Dear Colleague letter from Dawn Tilbury, assistant director for engineering at the National Science Foundation. "By accepting proposals at any time, ENG is affording the opportunity for PIs to think more creatively, build strong collaborations, converse with Program Directors and carefully prepare proposals with the potential to make significant research contributions to engineering. It is our hope that the elimination of deadlines will reduce the burden on institutions and the community." See responses to Frequently Asked Questions (https://www.nsf.gov/pubs/2018/nsf18083/nsf18083.jsp?WT.mc_id=USNSF_25&WT.mc_ev=click#q1). Please see more information in the Special Announcement section above in this Newsletter.

Webinar and Events

Event: Webinar for EHR CAREER Proposers
Sponsor: NSF
When: June 19, 2018; 2.00 PM – 3.00 PM
Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=245598&org=NSF
Brief Description: The Directorate for Education and Human Resources (EHR) will present information for principal investigators addressing specific issues related to the submission of a CAREER proposal to EHR.

To join the webinar: When it is time click on start your meeting or go to https://nsf.webex.com
Meeting number access code: 746-339-895
Meeting Password: CAREeR1!

Event: CISE Distinguished Lecture: The Materials Project
Sponsor: NSF
When: June 21, 2018; 11.00 AM – 12.00 PM
Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=245746&org=NSF
Brief Description: Advanced materials are essential to economic and societal development, with applications in multiple industries, from clean energy, to national security, and human welfare. Traditional empirical and 'one-at-a-time' materials testing is unlikely to meet our future materials innovation challenges in a timely manner. Historically, novel materials exploration has been slow and expensive, taking on average 18 years from concept to commercialization. What is needed is a scalable approach that leverages the talent of the US materials research community and enables a rational design and synthesis of materials from atoms to functionality. The Materials Project (www.materialsproject.org) is harnessing the power of supercomputing together with state of the art quantum mechanical theory to compute the properties of all known inorganic materials and beyond, design novel materials and offer the data for free to the community together with online analysis and design algorithms. The current release contains data derived from quantum mechanical calculations for over 70,000 materials and millions of associated properties. The software infrastructure enables thousands of calculations per week – enabling screening and predictions - for both novel solid as well as molecular species with target properties. To exemplify the approach of first-principles high-throughput materials design, we will make a deep dive into some of the ongoing work, showcasing the rapid iteration between ideas, new materials development, computations, emergent machine learning and insight as enabled by the Materials Project infrastructure and computing resources.
To Join the Webinar, please register at: http://www.tvworldwide.com/events/nsf/180621/

Event: Math Frontiers Monthly Webinar Series
Sponsor: National Academies
When: July 10, 2018 from 2.00 PM
Website: http://sites.nationalacademies.org/deps/bmsa/deps_183972
Brief Description: Join the National Academies of Sciences, Engineering, and Medicine for a webinar series on exciting and upcoming mathematics research across an array of topics. Webinars will take place on the **second Tuesday of each month from 2-3 p.m. ET,** with two speakers and live Q&A. See below for the list of dates and themes for each webinar. ***When registering, please make sure you select all the webinars you would like to attend.*** You will only receive reminder emails and login instructions for webinars you have registered for.
As each webinar approaches, we will post more information about the speakers on the webinar series page at nas.edu/mathfrontiers.
July 10, 2018: ***Topology***
Professors Jeffrey F. Brock and John Morgan will discuss applications of topology—the mathematical study of how object properties are impacted by deformations—to fields such as data analytics, tumor identification, and robotics.
August 14, 2018: ***Algorithms for Threat Detection***
Professor Andrea Bertozzi and others will discuss applications of mathematics to spatiotemporal data analytics as a way to discover and mitigate national security threats.
September 11, 2018: ***Mathematical Analysis***
Professor Dimitri Shlyakhtenko and others will discuss mathematical analysis—the study of functions and their limits. Application areas include computational fluid dynamics and astronomy.

October 9, 2018: ***Combinatorics***
Invited speakers will discuss the mathematical study of discrete structures and their properties focusing on some of the modern techniques in the area including the probabilistic method. Application areas include information theory, statistical physics, molecular biology and computer science.
November 13, 2018: ***Why Machine Learning Works***
Invited speakers will discuss the mathematics behind machine learning and how they enable predictive analyses.
December 11, 2018: ***Mathematics of Epidemics***
Professors Calistus Ngonghala and Folashade B. Agusto will discuss mathematical approaches to studying biology, including ecology and infectious disease.
To join the webinar: Please register at http://sites.nationalacademies.org/deps/bmsa/deps_183972

Grant Opportunities

National Science Foundation

Grant Program: Division of Physics: Investigator-Initiated Research Projects (PHY)
Agency: National Science Foundation NSF 18-564
RFP Website: https://www.nsf.gov/pubs/2018/nsf18564/nsf18564.htm
Brief Description: The Division of Physics (PHY) supports physics research and the preparation of future scientists in the nation's colleges and universities across a broad range of physics disciplines that span scales of space and time from the largest to the smallest and the oldest to the youngest. The Division is comprised of disciplinary programs covering experimental and theoretical research in the following major subfields of physics: Atomic, Molecular and Optical Physics; Computational Physics; Elementary Particle Physics; Gravitational Physics; Integrative Activities in Physics; Nuclear Physics; Particle Astrophysics; Physics of Living Systems; Plasma Physics (supported under a separate solicitation); and Quantum Information Science.
Awards: Standard Grant **Anticipated Funding Amount:** $90,000,000
Letter of Intent: See the program information
Full Proposal Submission Deadline: November 28, 2018
Contacts: Krastan B. Blagoev, Physics of Living Systems, telephone: (703) 292-4666, email: kblagoev@nsf.gov

- Michael J. Cavagnero, Atomic, Molecular and Optical Physics - Theory, telephone: (703) 292-2163, email: mcavagne@nsf.gov
- Mark Coles, Projects and Facilities, telephone: (703) 292-4432, email: mcoles@nsf.gov

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Grant Program: Operations Engineering (OE)
Agency: National Science Foundation NSF PD 19-006Y
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505202&org=NSF&sel_org=NSF&from=fund
Brief Description: The Operations Engineering (OE) program supports fundamental research on advanced analytical methods for improving operations in complex decision-driven environments. Analytical methods include, but are not limited to, deterministic and stochastic modeling, optimization, decision and risk analysis, data science, and simulation. Methodological research is highly encouraged but must be motivated by problems that have potential for high impact in engineering applications. Application domains of particular interest to the program arise in commercial enterprises (e.g., production/manufacturing systems and distribution of goods, delivery of services), the public

sector/government (e.g., public safety and security), and public/private partnerships (e.g., health care, environment and energy). The program also welcomes operations research in new and emerging domains and addressing systemic societal or technological problems. The OE program particularly values cross-disciplinary proposals that leverage application-specific expertise with strong quantitative analysis in a decision-making context. Proposals for methodological research that are not strongly motivated by high-potential engineering applications are not appropriate for this program.
Awards: Various
Letter of Intent: See the program information
Full Proposal Submission Deadline: Anytime
Contacts: Georgia-Ann Klutke gaklutke@nsf.gov (703) 292-2443
Irina Dolinskaya idolinsk@nsf.gov (703) 292-7078

Grant Program: Mind, Machine and Motor Nexus (M3X)
Agency: National Science Foundation NSF PD 19-058Y
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505402&org=NSF&sel_org=NSF&from=fund
Brief Description: The Mind, Machine and Motor Nexus (M3X) program supports fundamental research at the intersection of mind, machine and motor. A distinguishing characteristic of the program is an integrated treatment of human intent, perception, and behavior in interaction with embodied and intelligent engineered systems and as mediated by motor manipulation. M3X projects should advance the holistic analysis of cognition and of embodiment as present in both human and machine elements. This work will encompass not only how mind interacts with motor function in the manipulation of machines, but also how, in turn, machine response and function may shape and influence both mind and motor function.

The M3X program seeks to support the development of theories, representations, and working models that draw upon and contribute to fundamental understanding within and across diverse fields, including but not limited to systems science and engineering; mechatronics; cognitive, behavioral and perceptual sciences; and applied computing. Research funded through this program is expected to lead to new computable theories and to the physical manifestation of these theories.
Application areas supported by the M3X program span the full breadth of the Division of Civil, Mechanical and Manufacturing Innovation. Methodological innovation is emphasized, as is a focus on engaging new and emerging thematic areas.The M3X program does not support disaggregated, parallel efforts from individual disciplines or investigators: rather, supported activities must strongly integrate across disciplines to enable discoveries that would not otherwise be possible. Additionally, the M3X program will not consider proposals that do not integrate physical considerations in a fundamental way. Principal investigators proposing pure artificial intelligence or pure machine learning research are referred to funding opportunities in the Directorate for Computer and Information Science and Engineering.
Awards: Various
Letter of Intent: See the program information
Full Proposal Submission Deadline: Anytime
Contacts: Robert Scheidt rscheidt@nsf.gov 703-292-2477

Grant Program: Humans, Disasters, and the Built Environment (HDBE)
Agency: National Science Foundation NSF PD 19-8092
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505572&org=NSF&sel_org=NSF&from=fund

Brief Description: The Humans, Disasters and the Built Environment (HDBE) program supports fundamental, multidisciplinary research on the interactions between humans and the built environment within and among communities exposed to natural, technological and other types of hazards and disasters. The program's context is provided by ongoing and emerging changes in three interwoven elements of a community: its population, its built environment (critical infrastructures, physical and virtual spaces, and buildings and related structures) and the hazards and disasters to which it is exposed. The HDBE program seeks research that integrates these elements and that can contribute to theories that hold over a broad range of scales and conditions. Examples include but are not limited to unified frameworks and theoretical models that encompass non-hazard to extreme hazard and disaster conditions, theoretical and empirical studies that consider how interactions between a community's population and its built environment may suppress or amplify hazard exposure or its effects, and studies that seek to inform scholarship through the development of shared data and related resources. In these and other areas funded through the HDBE program, research that challenges conventional wisdom on the interactions among humans, the built environment and hazards and disasters is particularly encouraged. Given the richness of the phenomena under study, the HDBE program seeks research that advances theories, methods and data within and across diverse disciplines, whether in engineering, the social sciences, computing or other relevant fields. Ultimately, research funded through this program is expected to inform how communities can cultivate and engage a broad range of physical, social and other resources to ensure improved quality of life for their inhabitants.
Awards: Various
Letter of Intent: See the program information
Full Proposal Submission Deadline: Anytime
Contacts: Robin Dillon-Merrill rdillonm@nsf.gov 703-292-4921

Grant Program: Mechanics of Materials and Structures (MOMS)
Agency: National Science Foundation NSF PD 19-1630
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13355&org=NSF&sel_org=NSF&from=fund
Brief Description: The Mechanics of Materials and Structures program supports fundamental research in mechanics as related to the behavior of deformable solid materials and structures under internal and external actions. The program supports a diverse spectrum of research with emphasis on transformative advances in experimental, theoretical, and computational methods. Submitted proposals should clearly emphasize the contributions to the field of mechanics.
Proposals related to material response are welcome, including, but not limited to, advances in fundamental understanding of deformation, fracture, and fatigue as well as contact and friction. Proposals that relate to structural response are also welcome, including, but not limited to, advances in the understanding of nonlinear deformation, instability and collapse, and wave propagation. Proposals addressing mechanics at the intersection of materials and structures, such as, but not limited to, meta-materials, hierarchical, micro-architectured and low-dimensional materials are also encouraged.
Proposals that explore and build upon advanced computing techniques and tools to enable major advances in mechanics are particularly welcome. For example, proposals incorporating reduced-order modeling, data-driven techniques, and/or stochastic methods with a strong emphasis on validation are encouraged. Also welcome are proposals addressing data analytics for deformation or damage response deduction from large experimental and computational data sets. Similarly, proposals that explore new experimental techniques to capture deformation and failure information for extreme ranges of loading or material behavior are also encouraged. Finally, experimental and computational methods that address information across multiple length and time scales, potentially involving multiphysics considerations are also welcome.

Awards: Various
Letter of Intent: See the program information
Full Proposal Submission Deadline: Anytime
Contacts: Siddiq Qidwai moms@nsf.gov (703) 292-2211

Grant Program: Civil Infrastructure Systems (CIS)
Agency: National Science Foundation NSF PD 19-1631
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13352&org=NSF&sel_org=NSF&from=fund
Brief Description: The Civil Infrastructure Systems (CIS) program supports fundamental and innovative research in the design, operation and management of civil infrastructure that contributes to creating smart, sustainable and resilient communities at local, national and international scales. This program focuses on civil infrastructure as a system in which interactions between spatially- and functionally- distributed components and intersystem connections exist. All critical civil infrastructure systems are of interest, including transportation, power, water, pipelines and others.
The CIS program encourages potentially disruptive ideas that will open new frontiers and significantly broaden and transform relevant research communities. The program particularly welcomes research that addresses novel system and service design, system integration, big data analytics, and socio-technological-infrastructure connections. The program values diverse theoretical, scientific, mathematical, or computational contributions from a broad set of disciplines.
While component-level, subject-matter knowledge may be crucial in many research efforts, the program does not support research with a primary contribution pertaining to individual infrastructure components such as materials, sensor technology, extreme event analysis, human factors, climate modeling, structural, geotechnical, hydrologic or environmental engineering.
Awards: Various
Letter of Intent: See the program information
Full Proposal Submission Deadline: Anytime
Contacts: Cynthia Chen qchen@nsf.gov (703) 292-2563

Grant Program: Engineering Design and System Engineering (EDSE)
Agency: National Science Foundation NSF PD 19-072Y
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505478&org=NSF&sel_org=NSF&from=fund
Brief Description: The Engineering Design and Systems Engineering (EDSE) program supports fundamental research into the basic processes and phenomena of engineering design and systems engineering. The program seeks proposals leading to improved understanding about how processes, organizational structure, social interactions, strategic decision making, and other factors impact success in the planning and execution of engineering design and systems engineering projects. It also supports advances pertaining to engineering design and systems engineering in areas that include, but are not limited to, decision making under uncertainty, including preference and demand modeling; problem decomposition and decision delegation; applications of reverse game theory (mechanism design); computer-aided design; design representation; system performance modeling and prediction; design optimization; uncertainty quantification; domain- or concern-specific design methods; and advanced computational techniques for supporting effective human cognition, decision making, and collaboration. Competitive proposals for novel methods will include a plan to evaluate rigorously the effectiveness and performance of the proposed approach. The EDSE program encourages multidisciplinary collaborations of experts in design and systems engineering with experts in other domains. Of particular interest is

research on the design of engineering material systems that leverages the unique aspects of a particular material system to realize advanced design methods that are driven by performance metrics and incorporate processing/manufacturing considerations.
Awards: Various
Letter of Intent: See the program information
Full Proposal Submission Deadline: Anytime
Contacts: Richard . Malak rmalak@nsf.gov (703) 292-7902

Grant Program: Dynamics, Control and Systems Diagnostics (DCSD)
Agency: National Science Foundation NSF PD 19-7596
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505182&org=NSF&sel_org=NSF&from=fund
Brief Description: The Dynamics, Control and Systems Diagnostics (DCSD) program supports fundamental research on the analysis, measurement, monitoring and control of dynamic systems. The program promotes innovation in the following areas:

- Modeling: creation of new mathematical frameworks to apply tools of dynamics to physical systems
- Analysis: discovery and exploration of structure in dynamic behavior
- Diagnostics: dynamic methods that infer system properties from observations
- Control: methods that produce desired dynamic behavior

Proposals submitted to the DCSD program should clearly identify, articulate and motivate innovative components in one or more of the foundational areas above.
Furthermore, proposals should be aligned with the disciplinary thrusts of the CMMI division. To ensure that a project is appropriate for the DCSD program, PIs are very strongly encouraged to contact DCSD Program Directors prior to the full submission.
Innovative research that primarily concerns electromagnetic or chemical phenomena should be directed to the ECCS or CBET divisions. The DCSD Program does not fund fundamental research relating to sensing modalities or sensor development. Proposals offering fundamental research on sensing modalities should be submitted to the Communications, Circuits and Sensing Systems (CCSS) program or the Electronics, Photonics, and Magnetic Devices (EPMD) program in the ECCS Division.
Awards: Various
Letter of Intent: See the program information
Full Proposal Submission Deadline: Anytime
Contacts: Jordan M. Berg jberg@nsf.gov(703) 292-5365
Irina Dolinskaya idolinsk@nsf.gov (703) 292-7078

Grant Program: Biomechanics and Mechanobiology (BMMB)
Agency: National Science Foundation NSF PD 19-7479
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13523&org=NSF&sel_org=NSF&from=fund
Brief Description: The BMMB program supports fundamental research in biomechanics and mechanobiology. The program emphasizes multiscale mechanics approaches that integrate across molecular, cell, tissue and organ domains in the study of organisms. Projects may include theoretical, computational, and experimental approaches. An important concern is the influence of in vivo mechanical forces on cell and matrix biology in the histomorphogenesis, maintenance, regeneration and aging of tissues. The program also is interested in efforts to translate recent mechanobiological discoveries into

engineering science. The program encourages the consideration of diverse living tissues as smart materials that are self-designing.
Awards: Various
Letter of Intent: See the program information
Full Proposal Submission Deadline: Anytime
Contacts: Michele J. Grimmmgrimm@nsf.gov (703) 292-4641

Grant Program: Advanced Manufacturing
Agency: National Science Foundation NSF PD 19-8092
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505572&org=NSF&sel_org=NSF&from=fund
Brief Description: The Advanced Manufacturing (AM) program supports the fundamental research needed to revitalize American manufacturing to grow the national prosperity and workforce, and to reshape our strategic industries. The AM program accelerates advances in manufacturing technologies with emphasis on multidisciplinary research that fundamentally alters and transforms manufacturing capabilities, methods and practices. Advanced manufacturing research proposals should address issues related to national prosperity and security, and advancing knowledge to sustain global leadership.
Areas of research, for example, include manufacturing systems; materials processing; manufacturing machines; methodologies; and manufacturing across the length scales. Researchers working in the areas of cybermanufacturing systems, manufacturing machines and equipment, materials engineering and processing, and nanomanufacturing are encouraged to transcend and cross domain boundaries. Interdisciplinary, convergent proposals are welcome that bring manufacturing to new application areas, and that incorporate challenges and approaches outside the customary manufacturing portfolio to broaden the impact of America's advanced manufacturing research.
Proposals of all sizes will therefore be considered as justified by the project description. Investigators are encouraged to discuss their ideas with AM program directors well in advance of submission at AdvancedManufacturing@nsf.gov.
Awards: Various
Letter of Intent: See the program information
Full Proposal Submission Deadline: Anytime
Contacts: Khershed Cooper AdvancedManufacturing@nsf.gov (703) 292-7017
Bruce KramerAdvancedManufacturing@nsf.gov (703) 292-5348
Thomas F. Kuech AdvancedManufacturing@nsf.gov (703) 292-8606

Grant Program: Division of Chemistry: Disciplinary Research Programs (CHE-DRP)
Agency: National Science Foundation NSF 18-561
RFP Website: https://www.nsf.gov/pubs/2018/nsf18561/nsf18561.htm
Brief Description: This solicitation applies to nine CHE Disciplinary Chemistry Research Programs: Chemical Catalysis (CAT); Chemical Measurement and Imaging (CMI); Chemical Structure, Dynamics and Mechanisms-A (CSDM-A); Chemical Structure Dynamics and Mechanisms-B (CSDM-B); Chemical Synthesis(SYN); Chemical Theory, Models and Computational Methods (CTMC); Chemistry of Life Processes (CLP); Environmental Chemical Sciences (ECS); and Macromolecular, Supramolecular and Nanochemistry (MSN).
All proposals submitted to these nine CHE Disciplinary Research Programs (other than the following exceptions) must be submitted through this solicitation, otherwise they will be returned without review.
Exceptions:

- Faculty Early Career Development Program (CAREER) proposals should be submitted through the CAREER solicitation (NSF 17-537) by the CAREER deadline date specified.
- Facilitating Research at Primarily Undergraduate Institutions: Research in Undergraduate Institutions (RUI) and Research Opportunity Awards (ROA) proposals should be submitted through the RUI/ROA solicitation (NSF 14-579) during the window for the appropriate CHE Disciplinary Research Program.
- Proposals for Early-concept Grants for Exploratory Research (EAGER), Grants for Rapid Response Research (RAPID), Research Advanced by Interdisciplinary Science and Engineering (RAISE), and conferences can be submitted anytime via the PAPPG with the approval of the cognizant NSF Program Officer.
- Supplemental funding requests to existing grants can be submitted anytime with the approval of the cognizant NSF Program Officer.

Awards: Standard Grants; **Anticipated Funding Amount:** $150,000,000
Letter of Intent: See the program information
Full Proposal Submission Deadline: September 01, 2018 - October 01, 2018
Contacts: For CAT: Kenneth G. Moloy, telephone: (703) 292-8441, email: kmoloy@nsf.gov
For CSDM-A: Colby A. Foss, telephone: (703) 292-5327, email: cfoss@nsf.gov
For CSDM-B: Tingyu Li, telephone: (703) 292-4949, email: tli@nsf.gov
For SYN: Tingyu Li, telephone: (703) 292-4949, email: tli@nsf.gov
For CTMC: Evelyn Goldfield, telephone: (703) 292-2173, email: egoldfie@nsf.gov
For CMI: Kelsey D. Cook, telephone: (703) 292-7490, email: kcook@nsf.gov
For CLP: Catalina Achim, telephone: (703) 292-2048, email: cachim@nsf.gov
For ECS: Anne-Marie Schmoltner, telephone: (703) 292-4716, email: aschmolt@nsf.gov
For MSN: Suk-Wah Tam-Chang, telephone: (703) 292-8684, email: stamchan@nsf.gov

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Grant Program: Electrochemical Systems
Agency: National Science Foundation NSF PD 18-7644
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505558&org=NSF&sel_org=NSF&from=fund
Brief Description: The **Electrochemical Systems** program is part of the Chemical Process Systems cluster, which includes also 1) Catalysis; 2) Molecular Separations; and 3) Process Systems, Reaction Engineering, and Molecular Thermodynamics.

The goal of the **Electrochemical Systems** program is to support fundamental engineering research that will enable innovative processes involving electro- or photochemistry for the sustainable production of electricity, fuels, and chemicals. Processes for sustainable energy and chemical production must be scalable, environmentally benign, reduce greenhouse gas production, and utilize renewable resources. Research projects that stress fundamental understanding of phenomena that directly impact key barriers to improved system or component-level performance (e.g., energy efficiency, product yield, process intensification) are encouraged. Processes for energy storage should address fundamental research barriers for the applications of renewable electricity storage or for transport propulsion. For projects involving energy storage materials, proposals should involve hypotheses that involve device or component performance characteristics that are tied to fundamental understanding of transport, kinetics, or thermodynamics. Advanced chemistries are encouraged.

Proposed research should be inspired by the need for economic and impactful conversion processes. All proposal project descriptions should address how the proposed work, if successful, will improve process realization and economic feasibility and compare the proposed work against current state-of-the-art. Highly integrated multidisciplinary projects are encouraged.
Current topics of interest include:

Electrochemical Energy and Chemical Production Systems
Organic Photovoltaics Devices and Processing
INFORMATION COMMON TO MOST CBET PROGRAMS
Proposals should address the novelty and/or potentially transformative nature of the proposed work compared to previous work in the field. Also, it is important to address why the proposed work is important in terms of engineering science, as well as to also project the potential impact on society and/or industry of success in the research. The novelty or potentially transformative nature of the research should be included, as a minimum, in the Project Summary of each proposal.
Faculty Early Career Development (CAREER) program proposals are strongly encouraged. Award duration is five years. The submission deadline for Engineering CAREER proposals is in July every year. Please see the CAREER URL here for more information.
Proposals for Conferences, Workshops, and Supplements: PIs are strongly encouraged to discuss their requests with the Program Director before submission of the proposal.
Grants for Rapid Response Research (RAPID) and **EArly-concept Grants for Exploratory Research (EAGER)** are also considered when appropriate. Please note that proposals of these types must be discussed with the program director before submission. Further details are available in the **Proposal and Award Policies and Procedures Guide (PAPPG)** download found here. **Grant Opportunities for Academic Liaison with Industry (GOALI)** proposals that integrate fundamental research with translational results and are consistent with the application areas of interest to each program are also encouraged. Please note that GOALI proposals must be submitted during the annual unsolicited proposal window for each program. More information on GOALI can be found here.
Awards: Various
Letter of Intent: See the program information
Full Proposal Submission Deadline: October 1, 2018 - October 22, 2018
Contacts: Carole Read cread@nsf.gov (703) 292-2418

Grant Program: Biosensing
Agency: National Science Foundation NSF PD 18-7909
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505556&org=NSF&sel_org=NSF&from=fund
Brief Description: The **Biosensing** program is part of the Engineering Biology and Health cluster, which also includes 1) Biophotonics; 2) Cellular and Biochemical Engineering; 3) Disability and Rehabilitation Engineering; and 4) Engineering of Biomedical Systems.

The **Biosensing** program supports fundamental engineering research on devices and methods for measurement and quantification of biological analytes. Examples of biosensors include, but are not limited to, electrochemical/electrical biosensors, optical biosensors, plasmonic biosensors, paper-based and nanopore-based biosensors. In addition to technology development, submissions that address critical needs for biomedical research, public health, food safety, agriculture, forensic, environmental protection, and homeland security are highly encouraged. Proposals that incorporate emerging nanotechnology methods are especially encouraged.

Areas of interest include: 1) multiplex biosensing platforms that exceed the performance of current state-of-the-art devices; 2) novel transduction principles, mechanisms and sensor designs suitable for measurement in practical matrix and sample-preparation-free approaches, including error-free detection of pathogens and toxins in food matrices, waterborne pathogens, parasites, toxins, biomarkers in body fluids, neuron chemicals, and others that improve human condition; 3) biosensors that enable measurement of biomolecular interactions in their native states, transmembrane transport, intracellular transport and reactions, and other biological phenomena; 4) biosensing performance optimization for specific health applications such as point-of-care testing and personalized health monitoring; and 5)

miniaturization of biosensors for lab-on-a-chip and cell/organ-on-a-chip applications to enable measurement of biological properties and functions of cell/tissues *in vitro*.

The Biosensors Program does not encourage proposals addressing surface functionalization and modulation of bio-recognition molecules, development of basic chemical mechanisms for biosensing applications, circuit design for signal processing and amplification, computational modeling, and microfluidics for sample separation and filtration. Medical imaging-based measurements are out of the scope of the program interests. Proposals that rely heavily on descriptive approaches are given lower priority. Proposals for optimizing and/or utilizing established methods for specific applications should be directed to programs focused on the application.

Innovative ideas outside of the above specific interest areas may be considered. However, prior to submission, it is recommended that the PI contact the Program Director to avoid the proposal being returned without review.

INFORMATION COMMON TO MOST CBET PROGRAMS

Proposals should address the novelty and/or potentially transformative nature of the proposed work compared to previous work in the field. Also, it is important to address why the proposed work is important in terms of engineering science, as well as to also project the potential impact on society and/or industry of success in the research. The novelty or potentially transformative nature of the research should be included, as a minimum, in the Project Summary of each proposal.

Faculty Early Career Development (CAREER) program proposals are strongly encouraged. Award duration is five years. The submission deadline for Engineering CAREER proposals is in July every year. Please see the CAREER URL here for more information.

Proposals for Conferences, Workshops, and Supplements: PIs are strongly encouraged to discuss their requests with the Program Director before submission of the proposal.

Grants for Rapid Response Research (RAPID) and **EArly-concept Grants for Exploratory Research (EAGER)** are also considered when appropriate. Please note that proposals of these types must be discussed with the program director before submission. Further details are available in the **Proposal and Award Policies and Procedures Guide (PAPPG)** download found here. **Grant Opportunities for Academic Liaison with Industry (GOALI)** proposals that integrate fundamental research with translational results and are consistent with the application areas of interest to each program are also encouraged. Please note that GOALI proposals must be submitted during the annual unsolicited proposal window for each program. More information on GOALI can be found here.

Awards: Various

Letter of Intent: See the program information

Full Proposal Submission Deadline: October 1, 2018 - October 22, 2018

Contacts: Chenzhong Lichli@nsf.gov 703-292-2857

Grant Program: Biological and Environmental Interactions of Nanoscale Materials

Agency: National Science Foundation NSF PD 19-1179

RFP Website:

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505553&org=NSF&sel_org=NSF&from=fund

Brief Description: The **Biological and Environmental Interactions of Nanoscale Materials** program is part of the **Environmental Engineering and Sustainability** cluster, which also includes: 1) Environmental Engineering; and 2) Environmental Sustainability.

The goal of the Biological and Environmental Interactions of Nanoscale Materials program is to support research to advance fundamental and quantitative understanding of the interactions of nanomaterials and nanosystems with biological and environmental media.

Materials of interest include one- to three-dimensional nanostructures, heterogeneous nano-bio hybrid assemblies, quantum dots, and other nanoparticles. Such nanomaterials and systems frequently exhibit

novel physical, chemical, photonic, and biological behavior in living systems and environmental matrices as compared to the bulk scale.

Research areas supported by the program include:

- Characterization of interactions at the interfaces of nanomaterials and nanosystems with surrounding biological and environmental media, including both simple nanoparticles and complex and/or heterogeneous composites;
- Development of predictive tools based on the fundamental behavior of nanostructures within biological and ecological matrices to advance cost-effective and environmentally benign processing and engineering solutions over full-life material cycles;
- Examination of the transport, interaction, and impact of nanostructured materials and nanosystems on biological systems and the environment; and
- Simulations of nanoparticle behavior at interfaces, in conjunction with experimental comparisons, and new theories and simulation approaches for determining the transport and transformation of nanoparticles in various media.

Research in these areas will enable the design of nanostructured materials and heterogeneous nanosystems with optimal chemical, electronic, photonic, biological, and mechanical properties for their safe handling, management, and utilization.

Innovative proposals outside of these specific interest areas may be considered. However, prior to submission, it is recommended that the Principal Investigator contact the Program Director to avoid the possibility of the proposal being returned without review.

The duration of unsolicited awards is generally one to three years. The typical award size for the program is $130,000 per year. Proposals requesting a substantially higher amount than this, without prior consultation with the Program Director, may be returned without review.

INFORMATION COMMON TO MOST CBET PROGRAMS

Proposals should address the novelty and/or potentially transformative nature of the proposed work compared to previous work in the field. Also, it is important to address why the proposed work is important in terms of engineering science, as well as to also project the potential impact on society and/or industry of success in the research. The novelty or potentially transformative nature of the research should be included, as a minimum, in the Project Summary of each proposal.

Faculty Early Career Development (CAREER) program proposals are strongly encouraged. Award duration is five years. The submission deadline for Engineering CAREER proposals is in July every year. Please see the CAREER URL here for more information.

Proposals for Conferences, Workshops, and Supplements: PIs are strongly encouraged to discuss their requests with the Program Director before submission of the proposal.

Grants for Rapid Response Research (RAPID) and **EArly-concept Grants for Exploratory Research (EAGER)** are also considered when appropriate. Please note that proposals of these types must be discussed with the program director before submission. Further details are available in the **Proposal and Award Policies and Procedures Guide (PAPPG)** download found here. **Grant Opportunities for Academic Liaison with Industry (GOALI)** proposals that integrate fundamental research with translational results and are consistent with the application areas of interest to each program are also encouraged. Please note that GOALI proposals must be submitted during the annual unsolicited proposal window for each program. More information on GOALI can be found here.

Awards: Various

Letter of Intent: See the program information

Full Proposal Submission Deadline: Anytime

Contacts: Nora F. Savage nosavage@nsf.gov (703) 292-7949
Brandi L. Schottel bschotte@nsf.gov (703) 292-4798

National Institutes of Health

Grant Program: Lab to Marketplace: Tools for Brain and Behavioral Research (R43/R44 - Clinical Trial Optional)
Agency: National Institutes of Health PAR-18-819
RFP Website: https://grants.nih.gov/grants/guide/pa-files/PA-18-819.html
Brief Description: This Funding Opportunity Announcement (FOA) encourages the translation of technologies for brain or behavioral research from academic and other non-small business research sectors to the marketplace. Encouraged from Small Business Concerns (SBCs) are Small Business Innovation Research (SBIR) grant applications that propose to further develop, make more robust, and make more user-friendly such technologies in preparation for commercial dissemination. It is expected that this activity will require partnerships and close collaboration between the original developers of these technologies and SBCs, which may be accomplished in any of a number of ways, including the use of multiple program directors/principal investigators.
Awards: Budgets of up to total $450,000 per year total cost for Phase I awards and $750,000 per year total cost for Phase II awards.
Letter of Intent: 30 days prior to the application due date
Deadline: Standard dates apply, by 5:00 PM local time of applicant organization.
*** Note new SBIR/STTR Standard Due Dates.
Applicants are encouraged to apply early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date.

Grant Program: BRAIN Initiative Advanced Postdoctoral Career Transition Award to Promote Diversity (K99/R00 Independent Clinical Trial Not Allowed)
Agency: National Institutes of Health PAR-18-814
RFP Website: https://grants.nih.gov/grants/guide/pa-files/PAR-18-814.html
Brief Description: The objective of the NIH BRAIN Initiative Advanced Postdoctoral Career Transition Award to Promote Diversity (K99/R00) is to help outstanding postdoctoral researchers from diverse backgrounds with the opportunity to complete needed, mentored training and transition in a timely manner to independent, tenure-track or equivalent faculty positions. The BRAIN Initiative Diversity K99/R00 program is intended to foster the development of a creative, independent researcher that will be competitive for subsequent independent funding and that will help advance the mission of the NIH and BRAIN Initiative research areas in particular. Applicants must have no more than 5 years of postdoctoral research experience at the time of the initial or the subsequent resubmission application. The K99/R00 award is intended for individuals who require at least 12 months of mentored research training and career development (K99 phase) before transitioning to the R00 award phase of the program. Consequently, the strongest applicants will require, and will propose, a well-conceived plan for 1–2 years of substantive mentored research training and career development that will help them become competitive candidates for tenure-track faculty positions and prepare them to launch robust, independent research programs. *An individual who cannot provide a compelling rationale for at least one year of additional mentored research training at the time of award is not a strong candidate for this award.*
Awards: Award budgets are composed of salary and other program-related expenses.
Letter of Intent: Not applicable
Deadline: The first due date is August 1, 2018; Standard dates apply after that, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on these dates.
Applicants are encouraged to apply early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date

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Grant Program: NIH Director's New Innovator Award Program (DP2 - Clinical Trial Optional)
Agency: National Institutes of Health RFA-RM-18-008
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-18-008.html
Brief Description: The NIH Director's New Innovator Award addresses two important goals: stimulating highly innovative research and supporting promising Early Stage Investigators. Early Stage Investigators may have exceptionally innovative research ideas, but not the preliminary data required to fare well in the traditional NIH peer review system. As part of NIH's commitment to increasing opportunities for Early Stage Investigators, it has created the NIH Director's New Innovator Award to support exceptionally creative Early Stage Investigators who propose highly innovative research projects with the potential for unusually high impact. This award complements ongoing efforts by the NIH and its Institutes and Centers to fund Early Stage Investigators through R01 grants and other mechanisms. The definition of Early Stage Investigator is provided here.

The NIH Director's New Innovator Award is different from traditional NIH grants in several ways. It is designed specifically to support unusually creative investigators with highly innovative research ideas at an early stage of their career when they may lack the preliminary data required for an R01 grant application. The emphasis is on innovation and creativity; preliminary data are not required, but may be included. No detailed, annual budget is requested in the application. The review process emphasizes the individual's creativity, the innovativeness of the research approaches, and the potential of the project, if successful, to have a significant impact on an important biomedical or behavioral research problem.

Investigators who were not selected for an award in prior years may submit applications this year as long as they retain their ESI (early stage investigator) eligibility; however, all applications must be submitted as "new" applications regardless of any previous submission to the program. No reference to any prior application may be included. Any reference to prior applications may be grounds for administrative withdrawal.

The NIH Director's New Innovator Award is part of the High-Risk, High-Reward Research program funded through the NIH Common Fund, which supports cross-cutting programs that are expected to have exceptionally high impact. All Common Fund initiatives invite investigators to develop bold, innovative, and often risky approaches to address problems that may seem intractable or to seize new opportunities that offer the potential for rapid progress.
Awards: Application budgets are not limited but need to reflect the actual needs of the proposed project.
Letter of Intent: Not applicable
Deadline: September 21, 2018, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on this date. No late applications will be accepted for this Funding Opportunity Announcement.
Applicants are encouraged to apply early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date.

Grant Program: NIH Director's Transformative Research Award (R01 - Clinical Trial Optional)
Agency: National Institutes of Health RFA-RM-18-009
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-18-009.html
Brief Description: The NIH Director's Transformative Research Award supports collaborative investigative teams or individual scientists who propose unusually innovative research projects, which, if successful, would have a major impact in a broad area of biomedical or behavioral research. To be considered transformative, projects must have the potential to create or overturn fundamental scientific paradigms through novel approaches, transform the way research is conducted through the development of novel tools or technologies, or lead to major improvements in health through the development of highly

innovative therapies, diagnostic tools, or preventive strategies. Consistent with this focus, Transformative Research Award applications should reflect ideas substantially different from mainstream concepts.

Several key features of this FOA are designed to emphasize to applicants and peer reviewers that Transformative Research applications are very different from conventional, investigator-initiated research applications. The Transformative Research application focuses on the importance of the problem, the novelty of the hypothesis and/or the proposed methodology, and the magnitude of the potential impact rather than on preliminary data or experimental details. Reviewers will be instructed to emphasize the significance and innovation of the application in their evaluations. Applicants and reviewers should keep the goal of the Transformative Research Award in mind throughout the process– to solicit and fund unusually innovative and potentially transformative research.

The NIH Director's Transformative Research Award is part of the High-Risk, High-Reward Research program funded through the NIH Common Fund, which supports cross-cutting programs that are expected to have exceptionally high impact. All Common Fund initiatives invite investigators to develop bold, innovative, and often risky approaches to address problems that may seem intractable or to seize new opportunities that offer the potential for rapid progress.

Awards: Application budgets are not limited but need to reflect the actual needs of the proposed project.

Letter of Intent: Not applicable

Deadline: September 21, 2018, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on this date. No late applications will be accepted for this Funding Opportunity Announcement.

Applicants are encouraged to apply early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date.

Grant Program: BRAIN Initiative: Exploratory Team-Research BRAIN Circuit Programs - eTeamBCP (U01 Clinical Trial Not Allowed)

Agency: National Institutes of Health RFA-NS-18-029

RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-NS-18-029.html

Brief Description: The broad goal of the BRAIN Initiative is to understand the circuits and patterns of neural activity that give rise to mental experience and behavior, which will provide a foundation for understanding and treating diverse neurological, psychiatric, and behavioral disorders. It is the dynamic activity of massively interconnected ensembles of neurons in specially organized networks that give rise to the internal states we experience as sensations, perceptions, emotions, thoughts, memories, and movements. The activity of these networks is the substrate of cognitive processes such as attention, intention, emotions, and rational processes such as reasoning and decision making. Ultimately, these covert, internal activities are translated into patterns of neural activation that lead to overt behaviors, from simple reflexes to highly coordinated movements such as reaching and walking, to more complex behaviors such as navigating the environment and foraging, or speech and language. Dysfunction of these large systems of neurons due to disease, injury or developmental anomaly are the basis of neural and mental disorders. The mission of the NIH BRAIN initiative is to understand how large scale neural systems contribute to cognitive and neurological function in both health and disease.

We can seek to understand circuits of the brain by systematically controlling stimuli and measuring the resulting behaviors, while actively recording and manipulating the dynamic patterns of neural activity. We now have transformational technologies that allow us to record large, interrelated ensembles of neurons on an unprecedented scale during active behaviors. For example, it is now possible to study the collective neural activities of entire sensory-motor circuits. By clever manipulation of environments and contingencies, we can devise behavioral tasks that engage memories, decision making, and selective attention, while documenting and manipulating the functional relationships within the neural circuits that subtend the behaviors.

Increasingly, sophisticated approaches are required for data acquisition, analysis, interpretation, and dissemination. These demanding requirements often involve expertise not typically associated with traditional neurobiological experiments and training, such as expertise in computer and information science, hardware and software engineering, statistics, machine learning, and computational methods. As new, large-scale, systems approaches become routine, it will be essential to develop testable theories of how information originating from millions of neurons in diverse and widespread brain regions can be integrated to produce a wide range of motor, sensory and cognitive behaviors, and how this information evolves dynamically to adapt, refine and learn.

The purpose of this FOA is to provide resources for integration of experimental, analytic, and theoretical capabilities for large-scale analysis of neural systems and circuits within the context, and during the simultaneous measurement of complex behavior. We seek applications to build teams of experts for exploratory studies that integrate theory and modeling with new and emerging methods for recording and manipulating neural circuits across multiple brain regions, to elucidate a specific behavioral or neural system in terms of dynamic circuit activity. Novel and innovative approaches to theory and analysis are expected. Multiple species are encouraged where fundamental principles can be revealed with comparative approaches.

Awards: Application budgets are not limited but need to reflect the actual needs of the proposed project.
Letter of Intent: June 23, 2018
Deadline: July 23, 2018 and June 10, 2019 by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on this date.
Applicants are encouraged to apply early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date.

Grant Program: BRAIN Initiative: Development and Validation of Novel Tools to Probe Cell-Specific and Circuit-Specific Processes in the Brain (R01 Clinical Trial Not Allowed)
Agency: National Institutes of Health RFA-MH-19-136
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-19-136.html
Brief Description: This funding opportunity announcement (FOA) is designed to support development and validation of novel tools to facilitate the detailed analysis of cells and circuits and provide insights into the neural circuitry and structure underlying complex behaviors. The human brain consists of an estimated one hundred billion neurons and more than one trillion supporting glial cells that are uniquely organized to confer the extraordinary computational activities of the brain. Cell types are categorized by their anatomical position, neurotransmitter content, dendritic and axonal connections, receptor profile, gene expression profile and distinct electrical properties. Although the human brain has long been the focus of numerous studies with many major achievements along the way, to date we remain largely ignorant about the specific details such as cell types and connections that are responsible for rapid information processing. Defining cellular and circuit-level function is dependent on detailed knowledge about the components and structure of the circuit. Such knowledge, in turn, is fundamental to understanding how these features underlie cognition and behavior, which should aid in the development of targeted cell-type and circuit-specific therapeutics to treat brain disorders. This initiative is focused on developing tools (or vastly improving existing tools) to enable access to individual cells and defined groups of cells within neuronal circuits. The tools sought through this FOA can include novel genetic or non-genetic methods for targeted delivery of genes, proteins, and chemicals to specific cells or tightly defined cell types and circuits.

Development of novel tools that will delineate anatomical connections between cells and expand our knowledge of circuit architecture and function is an area well poised for additional investment. Several efforts are currently underway to study large-scale, long-range connections, such as the NIH Human Connectome Project, as well as large scale rodent connectional studies. Recent development of new

technologies (e.g., CLARITY, expansion microscopy, MerFISH, and several other imaging breakthroughs) allow an unprecedented three-dimensional view into the post-mortem brain. While still at an early stage, these exciting technologies hold promise for mapping short- and long-range connections throughout the brain. Coupled with improved activity monitoring technologies in awake, behaving animals, these new tools promise an understanding of circuitry in action. Further development of these technologies is crucial to push the envelope beyond our current capabilities. To this end, applicants from the biological sciences are encouraged to establish collaborations with nanobiologists, material scientists, engineers and colleagues in other disciplines to develop groundbreaking approaches to study brain activity.
Awards: Application budgets are not limited but need to reflect the actual needs of the proposed project.
Letter of Intent: August 27, 2018
Deadline: September 27, 2018, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on this date. No late applications will be accepted for this Funding Opportunity Announcement. Applicants are encouraged to apply early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date.

Grant Program: NIH Director's Pioneer Award (DP1 - Clinical Trial Optional)
Agency: National Institutes of Health RFA-RM-18-007
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-18-007.html
Brief Description: The NIH Director's Pioneer Award supports individual scientists of exceptional creativity who propose highly innovative approaches to addressing major challenges in the biomedical or behavioral sciences towards the goal of enhancing human health. The NIH recognizes a unique and compelling need to promote diversity in the biomedical and behavioral research workforce and expects its efforts to lead to the recruitment of the most talented researchers from all groups. Thus, this Funding Opportunity Announcement encourages applications from talented researchers from diverse backgrounds underrepresented in biomedical/behavioral research, including underrepresented racial and ethnic groups, persons with disabilities, and women. Applications proposing research on any topic within the broad mission of NIH are welcome.

Emphases are on the qualities of the investigator and the innovativeness and potential impact of the proposed research. Preliminary data and detailed experimental plans are not requested. To be considered pioneering, the proposed research must reflect substantially different ideas from those being pursued in the investigator's current research program or elsewhere. The Pioneer Award is not intended to expand a current research program into the area of the proposed project. While the research direction may rely on the applicant's prior work and expertise as its foundation, it cannot be an obvious extension or scale-up of a current research enterprise which may be competitive as a new or renewal R01 application. Rather, the proposed project must reflect a fundamental new insight into the potential solution of a problem, which may develop from exceptionally innovative approaches and/or radically unconventional hypotheses. Applications for projects that are extensions of ongoing research should not be submitted.

Pioneer awardees are required to commit the major portion (more than 6 person-months or at least 51%) to activities supported by the Pioneer Award research project in the first three years of the project period. Effort expended toward teaching, administrative, or clinical duties should not be included in this calculation. Awardees will be allowed to reduce effort to at least 4 person-months (33%) and at least 3 person-months (25%) in the fourth and fifth years, respectively, to help them transition to other sources of support, since Pioneer Awards cannot be renewed. Applicants with current research commitments equal to 6 person-months or more must adjust their effort on existing grants during the award to devote

the required minimum effort to the Pioneer Award project. Applicants who will not be able to meet this requirement should not submit applications.

The NIH Director's Pioneer Award is part of the High-Risk, High-Reward Research program funded through the NIH Common Fund, which supports cross-cutting programs that are expected to have exceptionally high impact. All Common Fund initiatives invite investigators to develop bold, innovative, and often risky approaches to address problems that may seem intractable or to seize new opportunities that offer the potential for rapid progress.

Awards: Awards will be for $700,000 in direct costs per year, plus applicable Facilities and Administrative (F&A) costs.

Letter of Intent: Not required

Deadline: September 14, 2018, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on this date. No late applications will be accepted for this Funding Opportunity Announcement. Applicants are encouraged to apply early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date.

Department of Defense/US Army/DARPA/ONR

Grant Program: Research Interests of the Air Force Office of Scientific Research
Agency: Department of Defense Air Force Office of Scientific Research FA9550-18-S-0003
Website: http://www.federalgrants.com/Research-Interests-of-the-Air-Force-Office-of-Scientific-Research-71509.html

Brief Description: The Air Force Office of Scientific Research manages the basic research investment of the U.S. Air force. As a part of the Air Force Research Laboratory (AFRL), our technical experts discover, shape, and champion research within AFRL, universities, and industry laboratories to ensure the transition of research results to support U.S. Air Force needs. Using a carefully balanced research portfolio, our research managers seek to foster revolutionary scientific breakthroughs enable the Air force and U.S. industry to produce world-class, militarily significant, and commercially valuable products.

Awards: Various; The FY18 appropriation is $100M.

Proposal Deadline: June 30th, 2019

Contact Information: Melissa A. Campbell Procurement Analyst Phone 703-696-7722 Business Office Email

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Grant Program: DoD Orthotics and Prosthetics Outcomes, Clinical Research Award
Agency: Department of Defense Dept of Army W81XWH-18-OPORP-CRA
Website: https://www.arl.army.mil/www/default.cfm?page=8

Brief Description: Applications to the FY18 OPORP Clinical Research Award (CRA) must address at least one of the Focus Areas listed below. Selection of the appropriate primary Focus Area is the responsibility of the applicant. Studies that propose development of a new technology or improvement of an existing technology are not allowed according to Congressional intent of the OPORP. • Orthotic or Prosthetic Device Form: Understand patient outcomes through the analysis and characterization of variables related to the form of currently available clinical options such as device size, shape, material, and/or configurations. • Orthotic or Prosthetic Device Fit: Understand patient outcomes related to human-device interface and component connection through the analysis of variables in currently available clinical options that facilitate fit-related metrics such as comfort and/or usability. • Orthotic or Prosthetic Device

Function: Understand patient outcomes through the analysis of variables related to currently available device function such as device control, sensors, and passive or active response with respect to activities of daily living and other real-world activities.
Awards: Various; The FY18 appropriation is $10M.
Proposal Deadline:
Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), August 6, 2018 • Invitation to Submit an Application: September 5, 2018 • Application Submission Deadline: 11:59 p.m. ET, October 25, 2018
Contact Information: Contact Information: Questions related to Program Announcement content or submission requirements as well as questions related to the pre-application or intramural application submission through eBRAP should be directed to the CDMRP Help Desk, which is available Monday through Friday from 8:00 a.m. to 5:00 p.m. ET. Response times may vary depending upon the volume of inquiries. Phone: 301-682-5507 Email: help@eBRAP.org

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Grant Program: Spinal Cord Injury Research Program Investigator-Initiated Research Award
Agency: Department of Defense Dept of Army W81XWH-18-SCIRP-IIRA
Website: https://www.arl.army.mil/www/default.cfm?page=8
Brief Description: Applications to the Fiscal Year 2018 (FY18) Spinal Cord Injury Research Program (SCIRP) are being solicited for the Defense Health Agency (DHA) J9, Research and Development Directorate, by the U.S. Army Medical Research Acquisition Activity (USAMRAA) using delegated authority provided by United States Code, Title 10, Section 2358 (10 USC 2358). As directed by the Office of the Assistant Secretary of Defense for Health Affairs (OASD[HA]), the DHA manages the Defense Health Program (DHP) Research, Development, Test, and Evaluation (RDT&E) appropriation. The execution management agent for this Program Announcement is the Congressionally Directed Medical Research Programs (CDMRP). The SCIRP was initiated in 2009 to provide support for research of exceptional scientific merit that has the potential to make a significant impact on improving the health and well-being of military Service members, Veterans, and other individuals living with spinal cord injury (SCI). Appropriations for the SCIRP from FY09 through FY17 totaled $217.85 million (M). The FY18 appropriation is $30M.
To meet the intent of the award mechanism, applications must address at least one of the FY18 SCIRP IIRA Focus Areas listed below. Applications may address more than one Focus Area. In particular, applications combining biomarker studies with studies in one or more of the following Focus Areas are encouraged: preserving and protecting tissues after injury; bladder dysfunction, bowel dysfunction, and neuropathic pain; and rehabilitation and regeneration. Applications using clinically relevant combinations of interventions within or across Focus Areas are also encouraged.
• Preserving and protecting tissue early after injury: Applications should demonstrate a clear path from proposed research to improved neurological outcomes. ○ Preclinical and clinical studies are supported in this FY18 SCIRP IIRA Focus Area.
Includes surgical and acute care management of SCI. ○ Early therapeutics (devices and pharmacologic interventions) to stabilize SCI in the prehospital environment and during transport are encouraged. ○ Applications proposing neuroprotective interventions need to demonstrate a clinically feasible window for treatment and more than an incremental improvement over existing therapies.
• Biomarkers: Identifying and validating SCI biomarkers for diagnosis, prognosis, and evaluation of treatment efficacies: ○ Preclinical and clinical studies are supported in this FY18 SCIRP IIRA Focus Area. Correlative studies with existing clinical trials are allowed and encouraged. ○ Biomarkers must focus on diagnosis, prognosis, progression, and/or recovery of SCI. ○ Projects can include imaging and other modalities. ○ Applications should demonstrate a clear path to clinical use. ○ Biomarker studies

directed at identifying the best single or combination of treatments for individuals (personalized medicine) are encouraged.
Awards: The anticipated direct costs budgeted for the entire period of performance for an FY18 SCIRP IIRA will not exceed $500,000. Refer to Section II.D.5, Funding Restrictions, for detailed funding information.
Proposal Deadline:
Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), July 9, 2018 • Invitation to Submit an Application: August 2018 • Application Submission Deadline: 11:59 p.m. ET, October 15, 2018
Contact Information: Questions related to Program Announcement content or submission requirements as well as questions related to the pre-application or intramural application submission through eBRAP should be directed to the CDMRP Help Desk, which is available Monday through Friday from 8:00 a.m. to 5:00 p.m. ET. Response times may vary depending upon the volume of inquiries. Phone: 301-682-5507 Email: help@eBRAP.org

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Grant Program: DoD Hearing Restoration Focused Applied Research Award
Agency: Department of Defense Dept of Army W81XWH-18-HRRP-FARA
Website: https://www.arl.army.mil/www/default.cfm?page=8
Brief Description: The FY18 HRRP FARA mechanism is intended to support applied research that will advance the diagnosis and treatment of auditory dysfunction where hearing sensitivity may be within normal limits but the individual's capacity to listen and understand speech is substantially impaired. Such listening difficulties are often described using terms such as synaptopathy, hidden hearing loss, and central auditory processing disorders. These disorders can be triggered by exposure to loud noises such as those encountered on the battlefield or certain work environments. While these types of auditory dysfunction may severely affect the ability of a person to hear and interpret speech, they are not readily diagnosed by typical hearing tests. If a Service member cannot effectively hear battlefield communication and sounds, s/he may pose a danger to himself/herself, others in the unit, and the mission. There is a great need for validated and reliable techniques and methods to detect and assess these types of auditory dysfunction, especially techniques and methods that can be applied by a non-specialist (e.g., physician assistants, medics, or corpsmen) in the operational environment (e.g., a Forward Operating Base or a Battalion Aid Station) to quickly screen Service members for combat readiness. Techniques and methods are further needed to identify the component(s) of the auditory system or pathway that is (are) damaged. Interventions are needed to treat different types of damage (e.g., synaptopathy, central auditory processing disorder) or mitigate their adverse effects on hearing. It is expected that the diagnostic tools, tests, and treatments developed under the FARA would also benefit the general public by advancing hearing loss prevention/treatment and improving hearing health care for individuals in rural or remote deployed environments.
Awards: Various; The FY18 appropriation is $10M.
Proposal Deadline:
Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), July 17, 2018 • Invitation to Submit an Application: September 2018 • Application Submission Deadline: 11:59 p.m. ET, November 8, 2018
Contact Information: Questions related to Program Announcement content or submission requirements as well as questions related to the pre-application or intramural application submission through eBRAP should be directed to the CDMRP Help Desk, which is available Monday through Friday from 8:00 a.m. to 5:00 p.m. ET. Response times may vary depending upon the volume of inquiries. Phone: 301-682-5507 Email: help@eBRAP.org

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Grant Program: DoD Autism Idea Development Award

Agency: Department of Defense Dept of Army W81XWH-18-ARP-IDA
Website: http://cdmrp.army.mil/funding/pa/FY18-ARP-IDA.pdf
Brief Description: The ARP Idea Development Award supports the development of innovative, high-risk/high-reward research that could lead to critical discoveries or major advancements that will accelerate progress in improving outcomes for individuals with ASD. This award mechanism is designed to support innovative ideas with the potential to yield impactful data and new avenues of investigation.

The FY18 ARP Idea Development Award seeks applications from all areas of basic and preclinical research and ***strongly encourages*** applications that address the critical needs of the ASD community in one or more of the following areas:

• Assessment of novel therapeutics using valid preclinical models
• Environmental risk factors
• Mechanisms of heterogeneous clinical expression of ASD
• Mechanisms underlying conditions co-occurring with ASD (e.g., sleep disturbances, gastrointestinal issues, inflammation, aggression, depression, anxiety, attention deficit, seizures)
• Factors promoting success in key transitions to independence for individuals living with ASD
• Development of healthcare provider-focused training or tools to improve healthcare delivery for individuals with ASD across the lifespan and the continuum of care (i.e., primary care, urgent/emergent care, and disaster relief)
• Improve diagnosis across the lifespan
• Cultural and socioeconomic factors in treatment efficacy, delivery, and access to services

Awards: Various
Proposal Deadline:
Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), July 5, 2018 • Invitation to Submit an Application: August 10, 2018 • Application Submission Deadline: 11:59 p.m. ET, October 4, 2018
Contact Information: CDMRP Help Desk Phone: 301-682-5507 Email: help@eBRAP.org

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Grant Program: NRL Long Range Broad Agency Announcement (BAA) for Basic and Applied Research
Agency: Department of Defense Naval Research Laboratory N00173-18-S-BA01
Website: https://www.nrl.navy.mil/doing-business/Current-NRL-BAA
Brief Description: The Naval Research Laboratory (NRL) The Naval Research Laboratory (NRL) is the Navy's corporate laboratory. NRL conducts basic and applied research for the Navy in a variety of scientific and technical disciplines. The basic research program is driven by perceptions about future requirements of the Navy. NRL conducts most of its research program at its own facilities but also funds some related research such as anticipated by this announcement. More extensive research support opportunities are available from the Naval Research Laboratory (NRL). NRL announcements may be accessed via the Internet at https://www.nrl.navy.mil/doingbusiness/contracting-division/baa. NRL is 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 NRL's broad role in competitive funding of meritorious research across a spectrum of science and engineering disciplines. A brief description of the NRL Program Codes and the science and technology thrusts that NRL is pursuing is provided below. Additional information can be found at the NRL website at https://www.nrl.navy.mil/research/directorates-divisions/. This announcement is an expression of interest only and does not commit the Government to make any award or to pay for any proposal preparation costs. The cost of proposal preparation for response to a BAA is not considered an allowable direct charge to any resultant contract or any other contract; however, it may be an allowable expense to the normal bid and proposal indirect cost specified in FAR 31.205-18.
Awards: Various

Proposal Deadline: May 9, 2019
Contact Information: Mary Johnson Contract Specialist Phone 202-767-2021

Department of Education

Grant Program: Institute of Education Sciences (IES): Education Research CFDA Number 84.305A
Agency: Department of Education ED-GRANTS-052118-001
Website: https://www.gpo.gov/fdsys/pkg/FR-2018-05-21/pdf/2018-10802.pdf
Brief Description: Each funding opportunity description is a synopsis of information in the Federal Register application notice. For specific information about eligibility, please see the official application notice. The official version of this document is the document published in the Federal Register. Free Internet access to the official edition of the Federal Register and the Code of Federal Regulations is available on GPO Access at: http://www.access.gpo.gov/nara/index.html. Please review the official application notice for pre-application and application requirements, application submission information, performance measures, priorities and program contact information.
For the addresses for obtaining and submitting an application, please refer to our Common Instructions for Applicants to Department of Education Discretionary Grant Programs, published in the Federal Register on February 12, 2018 (83 FR 6003) and available atwww.gpo.gov/fdsys/pkg/FR-2018-02-12/pdf/2018-02558.pdf.

The dates when applications are available and the deadlines for transmittal of applications invited under this notice are indicated in the chart at the end of this notice and in the Requests for Applications (RFAs) that are posted at the following websites: https://ies.ed.gov/funding,https://www.ed.gov/programs/edresearch/index.html,and https://www.ed.gov/programs/specialedresearch/index.html.

FOR FURTHER INFORMATION CONTACT: The contact person associated with a particular research competition is listed in the chart at the end of this notice, as well as in the relevant RFA and application package.

Purpose of Program: In awarding these grants, the Institute of Education Sciences (Institute) intends to provide national leadership in expanding fundamental knowledge and understanding of (1) developmental and school readiness outcomes for infants and toddlers with or at risk for a disability, (2) education outcomes for all students from early childhood education through postsecondary and adult education, and (3) employment and wage outcomes when relevant (such as for students who engaged in career and technical, postsecondary, or adult education). The Institute's research grant programs are designed to provide interested individuals and the general public with reliable and valid information about education practices that support learning and improve academic achievement and access to education opportunities for all students. These interested individuals include parents, educators, students, researchers, and policymakers. In carrying out its grant programs, the Institute provides support for programs of research in areas of demonstrated national need.

Competitions in This Notice: The Institute will conduct nine research competitions in FY 2019 through two of its centers: The Institute's National Center for Education Research (NCER) will hold a total of five competitions--one competition in each of the following areas: Education research; education research and development centers; statistical and research methodology in education; partnerships and collaborations focused on problems of practice or policy; and low-cost, short-duration evaluation of education interventions.

Catalog of Federal Domestic Assistance (CFDA) numbers 84.305A, 84.305C, 84.305D, 84.305H, 84.305L, 84.324A, 84.324B, 84.324L, and 84.324N.

Awards: Up to $4,000,000. Estimated total funding: $115,000,000
Proposal Deadline: Aug 23, 2018 Application Package Available: June 21, 2018. Deadline for Transmittal of Applications: August 23, 2018
Contact Information: Julius Cotton ED Grants.gov FIND Systems Admin. Phone 202-245-6288 EducationGrantInquiries@ed.gov
Program Manager: Molly Faulkner-Bond e-Mail: Molly.Faulkner-Bond@ed.gov .

Department of Energy

Grant Program: Integrated University Program (IUP): Enabling Technologies and Innovation (ETI) & Monitoring, Technology and Verification (MTV)
Agency: Department of Energy DE-FOA-0001875
Website: https://www.fedconnect.net/FedConnect/default.htm
Brief Description: The mission of the U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA), Office of Defense Nuclear Nonproliferation Research and Development (DNN R&D) is to support U.S. national and nuclear security objectives in reducing global nuclear security threats through the innovation of unilateral and multi-lateral technical capabilities to detect, identify, and characterize: 1) foreign nuclear weapons programs, 2) illicit diversion of special nuclear materials, and 3) global nuclear detonations. Section 313 of the Omnibus Appropriations Act of 2009 (H.R. 1105, P.L. 111-8) created the Integrated University Program (IUP). DNN R&D is one of the three participants in this program and is continuing a nuclear science and engineering program, including nuclear security, to support multi-year research projects. The role of Institutions of Higher Education (IHE; as defined in Section III.A. of the FOA) for nuclear security research and development is to innovate and develop some of the most challenging basic aspects of new technology and methods. Once these basic aspects have been proven at the IHE level, the DOE/NNSA National Laboratories and/or National Security Sites/Complexes can fulfill their unique role to perform mission-specific research and development that improves on capabilities until they are either adopted by operational enterprises or transitioned into private industry for commercialization. Transparently and effectively linking these IHE and DOE/NNSA National Laboratory and/or National Security Sites/Complexes roles represents the core of how DNN R&D proposes to meet its objectives. The intent of this FOA is to award TWO separate five-year cooperative agreements to consortia of accredited IHEs to allow them to receive and administer funds for student and faculty research, fellowships, and scholarship funding awarded by DOE/NNSA, DNN R&D. Each cooperative agreement will be awarded to a consortium of IHEs which will include the participation of DOE/NNSA National Laboratories and/or National Security Sites/Complexes as a consortium-member(s). Individual consortium-member IHEs shall make specific contributions and shall receive specified portions of the funding. The consortium may include student and research fellows and must have a long-term objective of building expertise in nuclear nonproliferation detection. Research results should be incorporated readily into IHE curricula. Students, faculty, and researchers must be able to work unencumbered while moving across what are now organizational and bureaucratic boundaries of the academic and governmental facilities engaged in the consortium, while properly protecting critical information and materials. The consortium should establish reciprocal arrangements between the lead IHE and other IHEs as well as relationships with appropriate DOE/NNSA National Laboratories and/or National Security Sites/Complexes.
Awards; Up to $25,000,000; Available Funding: $50,000,000
Submission Deadline: Sep 04, 2018 Application deadline is September 4, 2018, 11:59PM Eastern Standard Time.
Contact Information: Grant Specialist Alex Trejo 505-845-5472 alex.trejo@nnsa.doe.gov

NASA

Grant Program: ROSES 2018: DSCOVR Science Team
Agency: NASA NNH18ZDA001N-DSCOVR
Website: https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7B9C06DA13-5411-0043-725E-24CAB3A588F6%7D&path=open&method=init
Brief Description: NASA's Earth Science Research Program supports research activities that address the Earth system and seek to characterize its properties on a broad range of spatial and temporal scales, to understand the naturally occurring and human-induced processes that drive them, and to improve our capability for predicting its future evolution. The focus of the Earth Science Research Program is the use of space-based measurements to provide information not available by other means. NASA's program is an end-to-end one that starts with the development of observational techniques and the instrument technology needed to implement them; tests them in the laboratory and from an appropriate set of in situ, surface-, ship-, balloon-, aircraft-, and/or space-based platforms; uses the results to increase basic process knowledge; incorporates results into complex computational models that can be used to more fully characterize the present state and future evolution of the Earth system; and develops partnerships with other national and international organizations that can use the generated information in environmental forecasting and in policy, business, and management decisions. The scientific documentation underlying the Earth Science Research Program provides a comprehensive background for the science solicited here. The Research Program addresses NASA's Strategic Goal 2.1 to "Advance Earth System Science to meet the challenges of climate and environmental change." (See the most recent NASA Strategic Plan: https://smd-prod.s3.amazonaws.com/science-red/s3fspublic/atoms/files/FY2014_NASA_StrategicPlan_508c.pdf). In particular, it addresses the more specific Science Goals (see the Science Plan for NASA's Science Mission Directorate (hereafter the NASA Science Plan), also available at https://smdprod.s3.amazonaws.com/science-red/s3fspublic/atoms/files/2014_Science_Plan_PDF_Update_508_TAGGED_1.pdf)
Awards: Various
Notice of Intent: July 09, 2018
Proposal Deadline: September 04, 2018
Contact: Richard S. Eckman
Earth Science Division
Science Mission Directorate
NASA Headquarters
Washington, DC 20546-0001
Telephone: 202-358-2567
Email: Richard.S.Eckman@nasa.gov

Grant Program: Space Technology Research Institutes (STRI)Appendix
Agency: NASA 80HQTR18NOA01-18STRI-B3
Website: http://www.spaceref.com/news/viewsr.html?pid=51488
Brief Description: The National Aeronautics and Space Administration (NASA) Headquarters has released a solicitation, titled Space Technology Research Institutes (STRI), as an appendix to the Space Technology Mission Directorate (STMD) umbrella NASA Research Announcement (NRA) title Space Technology Research, Development, Demonstration, and Infusion 2018 (SpaceTech-REDDI-2018), on My 31, 2018. The solicitation is available by opening the NSPIRES homepage at http://nspires.nasaprs.com/ b selecting "Solicitations," then selecting "Open Solicitations," and, finally, selecting "Space Technology Research Institutes (STRI)."

The Space Technology Mission Directorate is seeking to invest, via research institutes, in university-led, multi-disciplinary basic research and technology development within particular area of strong interest to NASA and the wider aerospace community. The institutes construct allows for the participation of experts from a wide range of fields and organizations in a single distributed research structure, enabling greater progress and benefit for all involved. The institute approach facilitates a more focused and coordinated set of research and development efforts than typically arise from separate solicitations and individual research grants. In addition, because the institute maintains this focus for several years, more effective and substantial research progress is envisioned for the featured high priority research areas. An awarded institute will typically be 5 years in duration and up to $15M total over the 5-year period. Only accredited U.S. universities are eligible to submit proposals; teaming with other universities is required, and teaming with non-profit entities and industry is permitted. See Appendix section 3.0 for full list of eligibility requirements. The award instrument will be a grant.

The Appendix exclusively seeks proposals that are responsive to the following topics:

- Revolutionary Propulsion for Rapid Deep Space Transit
- Smart Deep Space Habitats (SmartHabs)

The financial and programmatic support for STRI comes from the Space Technology Research Grants Program within the Space Technology Mission Directorate. Awards are planned to start in Spring 2019. Proposals are being solicited via a two-step process where preliminary proposal are mandatory and only those invited may submit a full proposal. NASA plans to make approximately 2 awards as a result of this STRI solicitation, subject to the availability of funds and receipt of meritorious proposals. The actual number of awards will depend on the quality of proposal received; NASA reserves the right to make no awards under this solicitation.

All preliminary proposals must be submitted electronically through NSPIRES or through Grants.gov (www.grants.gov) by an authorized organizational representative. Notices of Intent (strongly encouraged) are due by July 2, 2018, with preliminary proposals due on or before July 20, 2018, 5 pm Eastern with invited full proposals targeted for November 5, 2018 Eastern. Detailed submission instructions and due dates are provided in the solicitation. Potential proposers and their proposing organizations are urged to familiarize themselves with the submission systems(s), ensure they are registered in NSPIRES, and submit the required proposal material well in advance of the deadline.

Awards: An awarded institute will typically be 5 years in duration and up to $15M total over the 5-year period.

Notice of Intent: July 1, 2018

Preliminary Proposal Deadline: July 30, 2018

Contact: Claudia M. Meyer NASA Space Technology Research Grants Program Exec Phone: 202-358-4458

Grant Program: ROSES 2018: Heliophysics Space Weather Operations to Research
Agency: NASA NNH18ZDA001N-HSWO2R

Website: https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7BE17AD920-C9F2-600D-5913-6951AB56F31F%7D&path=open&method=init

Brief Description: NASA's heliophysics strategic objective is to understand the Sun and its interactions with the Earth and the Solar System, including space weather. In this framework, the Heliophysics Research Program is guided by goals defined in the NASA 2014 Science Plan (available at https://science.nasa.gov/about-us/science-strategy) and the 2013 National Research Council Decadal Strategy for Solar and Space Physics report, Solar and Space Physics: A Science for a Technological Society (www.nap.edu/catalog.php?record_id=13060) and its purpose is to enable achieving these goals, which are: 1. Determine the origins of the Sun's activity and predict the variations in the space environment; 2. Determine the dynamics and coupling of Earth's magnetosphere, ionosphere, and

atmosphere and their response to solar and terrestrial inputs; 3. Determine the interaction of the Sun with the Solar System and the interstellar medium; 4. Discover and characterize fundamental processes that occur both within the heliosphere and throughout the Universe. The Heliophysics Research Program seeks to understand phenomena, on a broad range of spatial and temporal scales, the fundamental processes that drive them, how these processes combine to create space weather events, and to enable a capability for predicting future space weather events. In concert with the other NASA science divisions (Planetary Science, Astrophysics, and Earth Science), the program shares responsibility for learning about the Earth, our solar system, the universe, and their interrelationships.
Awards: Standard Grants
Proposal Deadline: August 03, 2018
Contact: Terrance Onsager
Heliophysics Division
Science Mission Directorate
NASA Headquarters
Washington, DC 20546-0001
Telephone: (202) 358-1615
Email: terrance.g.onsager@nasa.gov

National Endowment of Humanities

Grant Program: Infrastructure and Capacity Building Challenge Grants
Agency: National Endowment of Humanities
Website: https://www.neh.gov/grants/preservation/infrastructure-and-capacity-building-challenge-grants
Brief Description: The mission of this Challenge Grants program is to strengthen the institutional base of the humanities by enabling infrastructure development and capacity building. Awards aim to help institutions secure long-term support for their core activities and expand efforts to preserve and create access to outstanding humanities materials. Applications are welcome from colleges and universities, museums, public libraries, research institutions, historical societies and historic sites, scholarly associations, state humanities councils, and other public and nonprofit humanities entities. Programs that involve collaboration among multiple institutions are eligible as well, but one institution must serve as the lead agent and formal applicant of record.

Through these awards organizations can increase their humanities capacity with funds invested in a restricted, short-term endowment or other investment fund (or spend-down funds) that generate expendable earnings to support and enhance ongoing program activities. Eligible activities include the documentation of cultural heritage materials that are lost or imperiled; the preservation and conservation of humanities materials; and the sustaining of digital scholarly infrastructure.

Challenge grants may also support the purchase of equipment and software; the design, purchase, construction, restoration, or renovation of facilities needed for humanities activities; and collections sharing. Such expenditures bring long-term benefits to the institution and to the humanities more broadly.
Award: Up to $750,000
Proposal Deadline: August 09, 2018
Contact: Contact NEH's Division of Preservation and Access at 202-606-8309 or challenge@neh.gov.

Arnold and Mabel Beckman Foundation

Grant Program: Beckman Young Investigators Program
Agency: Arnold and Mabel Beckman Foundation
Website: http://www.beckman-foundation.org/programs/beckman-young-investigators-program-information
Brief Description: The Beckman Young Investigator (BYI) Program provides research support to the most promising young faculty members in the early stages of their academic careers in the chemical and life sciences, particularly to foster the invention of methods, instruments and materials that will open up new avenues of research in science.

Projects proposed for the BYI program should be truly innovative, high-risk, and show promise for contributing to significant advances in chemistry and the life sciences. They should represent a departure from current research directions rather than an extension or expansion of existing programs. Proposed research that cuts across traditional boundaries of scientific disciplines is encouraged. Proposals that open new avenues of research in chemistry and life sciences by fostering the invention of methods, instruments and materials will be given additional consideration.

The BYI program funds promising young scientists early in their careers who have not yet received a major award from another organization. Proposals that already have substantial funding will not be considered for the BYI award (see eligibility for more information).

Eligibility: The BYI program is open to those within the first three years of a tenure-track position, or an equivalent independent research appointment, at a United States academic or non-profit institution that conducts research in chemical and life sciences. Tenure Track Start Date for the 2019 program must be after: 8/15/2015. Investigators can have no more than $225,000 in direct, annualized external funding grants during any BYI Program Year (Aug-July) at time of application.
Awards: Projects are normally funded for a period of four years. Grants are in the range of $600,000 over the term of the project, contingent upon demonstrated progress after the second year of the award.
Proposal Deadline: Letter of Intent is due on August 6, 2018. The LOI needs two institutional endorsements.
Contact: Please let Eric Blitz (eric.blitz@njit.edu) and Atam Dhawan (dhawan@njit.edu) know if you are interested in applying.

PVA Foundation

Grant Program: PVA Research Grant
Agency: Paralyzed Veterans of America
Website: https://www.pva.org/research-foundation
Brief Description: The Research Foundation is focused on funding projects grounded in basic laboratory science and the education of scientists working on breakthroughs directed toward a cure for paralysis or the secondary medical conditions, and technologies associated with spinal cord injury or disease (SCI/D). These projects should be designed to find better treatments and cures for paralysis, to support efforts to improve the quality of life of individuals with SCI/D until improved clinical treatments, technologies or cures are discovered, and to train post-doctoral fellow investigators and encourage them to specialize in the area of spinal cord research.
From transplanting cells to regenerating damaged nerve fibers to designing adaptive canoe seats, the Paralyzed Veterans of America Research Foundation supports innovative research and fellowships that improve the lives of those with **spinal cord injury** and **disease** (SCI/D). The Research Foundation, a 501(c)(3) nonprofit, funds the following categories:

- Laboratory research in the basic sciences to find a cure for SCI/D
- Clinical and functional studies of the medical, psychosocial and economic effects of SCI/D, and interventions to alleviate these effects
- Design and development of assistive technology for people with SCI/D, which includes improving the identification, selection and utilization of these devices
- Fellowships for postdoctoral scientists, clinicians and engineers to encourage training and specialization in the field of spinal cord research

Award: Grants of up to $150,000 over two years.
Proposal Deadline: The Fiscal Year 2019 PVA Research Foundation grant cycle is open and will close on July 1, 2018. Applicants will be notified of awards by December 1, 2018.
Contact: Cheryl Vines, M.S.
Director of Research and Education
Phone: 202-256-5526 (cell) or 805-439-2804 (office)
Fax: 202-416-7641
Email: **cherylv@pva.org**

Streamlyne Question of the Week

Question: How can I update my eRA Commons ID for all future NIH proposals?

Answer: Go to Main Menu>Setting>Person Extended Attributes, click "Edit", enter it under "eRA Commons User Name" and submit the change/update.

More FAQs on Streamlyne: Please visit http://www.njit.edu/research/streamlyne/

Streamlyne Information

Streamlyne User Manuals: http://www.njit.edu/research/streamlyne/

Steamlyne_NewUserManual_CommonElements.docx : This manual provides a reference to all the common elements of Streamlyne Research. This user manual is a good document to review each module's functionality.

Steamlyne_NewUserManual_PD&PDBudget.docx: This is a user manual on proposal and budget development in Streamlyne. The content herein explain the use and functionality of this module. This is the most useful Streamlyne document for PIs and users new to Streamlyne.

How-to-do-Videos

New "How to Do" videos have been posted on the research website http://www5.njit.edu/research/streamlyne/. These videos show step-by-step process on the following tasks:

- How to Begin Proposal Submission in Streamlyne
- How to Input Proposal Budget
- How to Process Approvals
- How to Upload Proposal Attachments

- How to Search for a Proposal that is in Route
- Difference Between "Prime Sponsor Code" and "Sponsor Code"
- How to Select an RR Budget, RR Sub-award or Modular Budget
- How to Add a Student/Summary
- Participant Support Categories
- Supplies Specific Category Materials
- How to Create a Modular Budget

Faculty and staff having any questions on proposal submission, may contact their college representatives, and also follow up with **Justin Samolewicz, Associate Director (Pre Award)** 973-596-3145; justin.m.samolewicz@njit.edu; and **Eric Hetherington,** Director, Sponsored Research Programs Administration 973-596-3631; eric.d.hetherington@njit.edu. The college representatives to help PIs on proposal submissions are

John McCarthy, NCE Director of Research; (973) 596-3247; john.p.mccarthy@njit.edu
Cristo Leon, CSLA Director of Research; (973) 596-6426; cristo.e.yanezleon@njit.edu
Sean Andrews, YWCC Director of Research; (973) 596-5352; sean.t.andrews@njit.edu
Iris Pantoja, NCE, CoAD and MTSM Project Manager; 973-596-4483; irp3@njit.edu

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Need Information about Funding?

Finding Research Opportunities and Collaborations (FROC)

***Walk-In* Open-Hour Discussion with SVPR Over Tea**

Every Thursday: 3.00 PM-4.00 PM; 340 Fenster Hall

The Office of Research is starting a new service to help all faculty and staff explore collaborative research opportunities and currently active RFPs (Request for Proposals) for potential proposal development and submission. Faculty and research staff members are welcome to meet with Senior Vice Provost for Research Atam Dhawan at the open-hour every Thursday from 3.00 PM to 4.00 PM to discuss research opportunities related issues including the following but not limited to:

- Research opportunities and potential collaborations
- Currently active RFPs and developing collaborative teams for proposal submission
- Proposal review criterion for specific RFP/program/agency
- Proposal concept and draft review in the context of review criterion
- Future plans for proposal development and submission
- Invention disclosures, patent applications and processing of intellectual property
- External faculty research awards including fellowships

Though *walk-ins* are welcome during the open-hour, faculty members are encouraged to email SVPR Atam Dhawan (dhawan@njit.edu) about specific questions on research opportunities and needs to be discussed in advance for more detailed discussion.

The open-hour session with individuals or small groups of faculty and research staff members is expected to focus on finding research opportunities, developing collaborative teams, exploring the review criterion

and reviewing program requirements. Specific proposal submission and grant management issues can be discussed with Office of Research staff separately.

Enjoy coffee/tea and cookies with SVPR over the discussion.

For any questions and additional information, please send an email to SVPR at dhawan@njit.edu.
