NJIT Research Newsletter

Issue: ORN-2018-35

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: Cyberinfrastructure for Biological Research (CIBR); Instrument Capacity for Biological Research (ICBR); Infrastructure Innovation for Biological Research (IIBR); Infrastructure Capacity for Biology (ICB) Core Programs; Small Business Innovation Research Program Phase I (SBIR); Collaborative Research in Computational Neuroscience (CRCNS); Innovative Approaches to Science and Engineering Research on Brain Function; NSF/Intel Partnership on Foundational Microarchitecture Research (FoMR); Instrument Capacity for Biological Research (ICBR); Cyberinfrastructure for Biological Research (CIBR); Division of Environmental Biology (DEB) Core Programs
NIH: BRAIN Initiative: Team-Research BRAIN Circuit Programs - TeamBCP (U19); NLM Research Grants in Biomedical Informatics and Data Science (R01); BRAIN Initiative: Research Opportunities Using Invasive Neural Recording and Stimulating Technologies in the Human Brain (U01); Virtual Consortium for Translational/Transdisciplinary Environmental Research (ViCTER) (R01); Virtual Consortium for Translational/Transdisciplinary Environmental Research (ViCTER) (R01); BRAIN Initiative: Development of Novel Tools to Probe Cell-Specific and Circuit-Specific Processes in Human and Non-Human Primate Brain (UG3/UH3); Regenerative Medicine Innovation Project (RMIP) Investigator-Initiated Studies (U01); Short-term Mentored Career Enhancement Awards in Mobile and Wireless Health Technology and Data Analytics: Cross-Training at the intersection of Behavioral and Social Sciences and STEM Disciplines (K18)
Department of Defense/US Army/DARPA/ONR: Complex Traumatic Brain Injury Rehabilitation Research Clinical Research Award; Young Faculty Award, DoD Accelerating Innovation in Military Medicine Research Award; BROAD AGENCY ANNOUNCEMENT (BAA) for Extramural Biomedical Research and Development; NRL Long Range Broad Agency Announcement (BAA) for Basic and Applied Research
Department of Education: Institute of Education Sciences (IES)

EPA: Practical Methods to Analyze and Treat Emerging Contaminants (PFAS) in Solid Waste, Landfills, Wastewater/Leachates, Soils, and Groundwater to Protect Human Health and the Environment
Department of Energy: Advanced Solar Systems Integration Technologies Notice of Intent (NOI); Machine Learning for Geothermal Energy
NASA: ROSES 2018: Cassini Data Analysis Program: PDS Cassini Data Release 54**;** Use of the NASA Physical Sciences Informatics System - Appendix E National Endowment of Humanities: Humanities Connections Implementation Grants
Michael J. Fox Foundation: Research and Open Innovation
ACI Foundation: Concrete Research
Samsung: Samsung Global Research Outreach Program (GRO)
Simons Foundation: Simons Investigator program in the Mathematical Modeling of Living Systems (MMLS); Simons Foundation Fellowships in Math and Theoretical Physics
Whitehall Foundation: Research Grants in Neurology
BrightFocus Foundation: Alzheimer's Disease Research Program; Macular Degeneration Research Program; National Glaucoma Research Program

---

Special Announcement

Got an idea for science and engineering research?

Send it to the NSF 2026 Idea Machine

NSF opens 8-week competition starting Aug. 31

NSF 2026 Idea Machine website

If you've ever had an idea about how the National Science Foundation (NSF) could transform fundamental research, a huge window of opportunity is about to open. From Aug. 31, 2018 through Oct. 26, 2018, the foundation will open the entry window for its first-ever NSF 2026 Idea Machine, a competition that gives entrants a chance to help inform the agenda for basic research, through the Nation's 250th anniversary in 2026 and beyond.

NSF is looking for fresh ideas -- large in scope and different from what the foundation already does. These ideas should address compelling challenges in science, technology, engineering and mathematics (STEM). On Aug. 31, the NSF 2026 Idea Machine website will be updated with full rules and guidelines, and a portal for submitting entries. NSF 2026 is one of the agency's 10 Big Ideas for Future NSF Investments.

How big can your proposed idea be? NSF wants ideas for broad areas of research that would require a long-term commitment -- 10 years or more -- and potentially transform a research area through new explorations and creative inquiry.
A submission to the Idea Machine should be ambitious. It should be an idea that contributes to NSF's mission to support basic research in a way that ultimately fuels the nation's economy, enhances its security

and sustains U.S. global leadership in science and engineering. Progress toward addressing research in that area should have a significant impact on science and society.

"Scientific creativity and innovation have no bounds. Everyone in the scientific community, from middle schoolers to emeriti professors, as well as anyone who loves science in the general public have ideas about the future and what might be possible," said Suzi Iacono, head of NSF's Office of Integrative Activities. "We want to harness those rich imaginations through an approach that's totally new for NSF, but also in keeping with our tradition of reaching out into the community to find fresh, new ideas that have the potential to benefit science and society."

NSF's goal is to select two to four winning entries from the Idea Machine. Winning entries will receive $26,000 and their authors will be honored at an event in Washington, D.C. But the real prize is the opportunity to promote the progress of science and engineering by helping NSF identify a new area of research. NSF could use winning entries from the Idea Machine to help shape programs, or research agendas -- perhaps becoming the next Big Idea in need of long-term investment by the foundation.

For 70 years, NSF has kept an eye on the future, envisioning new research directions. The Idea Machine is yet another example of NSF looking for innovative ideas wherever they might exist. The Idea Machine also reflects NSF's goal of broadening participation in STEM -- the idea that bringing in new people and viewpoints benefits the entire scientific ecosystem. Once the window for entries closes on Oct. 26, NSF staff will screen and judge entries. For the most promising entries, NSF will invite submitters to provide video pitches, posting them online for public comment in early 2019. NSF will convene a blue-ribbon panel of judges to conduct interviews with finalists and will plan to announce winners and award prizes in the summer of 2019.

Have a great technology concept?

Need funds to explore the commercialization pathways?

Apply for an NJIT – I-Corps Site Mini-Grant

https://judithsheft.wufoo.com/forms/qalwq491kii3tv/

NJIT has been designated as an NSF I-Corps Site and through the NJIT School of Management and NJ Center for Innovation Acceleration, we will provide specialized training and mini grants of up to $3,000 to teams interested in exploring the commercial viability of their ideas for products and businesses that are based on their own inventions or NJIT intellectual property.

Do you have an exciting technology that works in the lab? Would you like help to start a company to commercialize the technology? Do you want to test a prototype in the real-world environment?

What are the benefits?

Learn the lean start up methodology – an approach that has significant advantages over traditional business planning / new product development approaches.

Get out of the building and spend the majority of your time talking to potential customers to discover how your technology could effectively 'solve' customers' unmet needs or pain points
Make connections with experienced entrepreneurs and investors that can lead to potential follow-on support or collaboration

Who is eligible?

I-Corps mini grants are available to teams made up NJIT students and faculty. Each team must have:
- an entrepreneurial lead(typically an NJIT undergraduate or graduate student(s))
- an academic lead researcher/advisor (faculty member)
- a business mentor with significant entrepreneurial business experience.

The NJIT I-Corps Program Managers (Dr. Michael Ehrlich and Ms. Judith Sheft) will provide assistance to complete teams as necessary. You must have at least 2 teams members identified to apply. All team members must be able to participate for the 6 month project duration.

DEADLINES:

Deadline for Submissions: September 26, 2018
Interviews of Finalists: October 1 - 5, 2018
Announcement of Awards – October 10, 2018
Mandatory Team Orientation – October 24, 2018 (Common Hour)
Other Mandatory Sessions: November 28, 2018 / January 30, March 20 2019
Final Report Due: March 20, 2019

QUESTIONS: PLEASE CONTACT:

Dr. Michael Ehrlich – NJIT School of Management and Co-Director of the NJ Innovation Acceleration Center - ehrlich@njit.edu
Judith Sheft Co- Director of the NJ Innovation Acceleration Center - sheft@njit.edu

---

Recent Research Grant and Contract Awards

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

PI: Liu Chang (PI), Haimin Wang (Co-PI)
Department: Center for Solar Terrestrial Research
Grant/Contract Project Title: Studying the Magnetic Field Structure and Topology of Circular Ribbon Flares
Funding Agency: NASA
Duration: 06/26/18-06/25/21

PI: Casey Diekman (PI)
Department: Mathematical Sciences
Grant/Contract Project Title: Dynamical Systems Modeling of the Basal Gangli
Funding Agency: IBM
Duration: 09/17/18-12/07/18

PI: Monique Paden-Hutchinson (PI)
Department: Center for Pre-College Programs (CPCP)
Grant/Contract Project Title: Educational Talent Search Program
Funding Agency: U.S. Department of Education
Duration: 09/01/16-08/31/21

PI: Monique Paden-Hutchinson (PI)
Department: Center for Pre-College Programs (CPCP)
Grant/Contract Project Title: Upward Bound
Funding Agency: U.S. Department of Education
Duration: 09/01/17-08/31/22

PI: Monique Paden-Hutchinson (PI)
Department: Center for Pre-College Programs (CPCP)
Grant/Contract Project Title: Upward Bound 2
Funding Agency: U.S. Department of Education
Duration: 09/01/17-08/31/22

PI: Veronica Guzman (PI)
Department: Center for Pre-College Programs (CPCP)
Grant/Contract Project Title: Upward Bound for English Language Learners (ELLs)
Funding Agency: U.S. Department of Education
Duration: 09/01/17-08/31/22

In the News…

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

BOOST FOR DEFENSE S&T: That $18 billion DoD increase Leahy cites contains "significant increases for defense science and technology (S&T) accounts," according to Lewis-Burke Associates' Defense Policy Newsletter -- "specifically in areas that support priorities identified in the National Defense Strategy, such as hypersonics, directed energy, artificial intelligence, quantum information sciences, autonomy, space, microelectronics, and cybersecurity."

DARPA - $2 BILLION OVER 5 YEARS FOR AI: The Defense Advanced Research Projects Agency's plan for artificial intelligence will fund dozens of new research efforts as part of a "Third Wave" campaign aimed at developing machines that can learn and adapt to changing environments. Over its 60-year history, DARPA has played a leading role in the creation and advancement of artificial intelligence (AI) technologies that have produced game-changing capabilities for the Department of Defense. Starting in the 1960s, DARPA research shaped the first wave of AI technologies, which focused on handcrafted knowledge, or rule-based systems capable of narrowly defined tasks. While a critical step forward for the field, these systems were fragile and limited. Starting in the 1990s, DARPA helped usher in a second wave of AI machine learning technologies that created statistical pattern recognizers from large amounts of data. The agency's funding of natural language understanding, problem solving, navigation and perception technologies has led to the creation of

self-driving cars, personal assistants, and near-natural prosthetics, in addition to a myriad of critical and valuable military and commercial applications. However, these second wave AI technologies are dependent on large amounts of high quality training data, do not adapt to changing conditions, offer limited performance guarantees, and are unable to provide users with explanations of their results.

DARPA is currently pursing more than 20 programs that are exploring ways to advance the state-of-the-art in AI, pushing beyond second-wave machine learning techniques towards contextual reasoning capabilities. In addition, more than 60 active programs are applying AI in some capacity, from agents collaborating to share electromagnetic spectrum bandwidth to detecting and patching cyber vulnerabilities. Over the next 12 months, DARPA plans to issue multiple Broad Agency Announcements for new programs that advance the state of the art in AI. More information is on the website https://www.darpa.mil/news-events/2018-09-07

NIH's 'VENTURE CAPITAL' ARM: NIH's durable Common Fund addresses "emerging scientific opportunities and pressing challenges in biomedical research that no single NIH Institute or Center (IC) can address on its own, but are of high priority for the NIH as a whole." Its programs are "short-term, goal-driven strategic investments, with deliverables intended to catalyze research across multiple biomedical research disciplines." The most recent opportunities include (https://commonfund.nih.gov/grants/fundedresearch):

- Acute to Chronic Pain Signatures (A2CPS)
- Extracellular RNA Communication
- Gabriella Miller Kids First
- Glycoscience
- NIH Director's Early Independence Award
- NIH Director's New Innovator Award
- NIH Director's Pioneer Award
- NIH Director's Transformative Research Award
- Illuminating the Druggable Genome
- Somatic Cell Genome Editing
- Stimulating Peripheral Activity to Relieve Conditions (SPARC)

OMB GEARS UP for Research: The American Association for the Advancement of Science reports that the Office of Management and Budget wants to establish a Government Effectiveness Advanced Research Center (GEAR Center), a public-private partnership that would "bring together experts in disciplines from economics to computer science to design thinking, in order to take a creative, data-driven and interdisciplinary approach to new possibilities in how citizens and government interact." A Request for Information, open through September 14, seeks ideas from the public, academics, experts, and industry on the structure, operation and research agenda for the center. The GEAR Center would bring together experts in disciplines from economics, to computer science, to design thinking, in order to take a creative, data-driven, and interdisciplinary approach to new possibilities in how citizens and government interact. The GEAR Center can help government catch up with where private-sector services and capabilities are today and lay the groundwork for where our operations and services need to be in five, 10, or 20 years. More information is on the website https://www.performance.gov/GEARcenter/?et_rid=17773746&et_cid=2351507

Climate Fight in the Background as Energy Conferees Meet: Senate Majority Leader Mitch McConnell (R-Ky.) says a House-Senate conference could approve the combined Energy-Water, Legislative Branch and Military Construction-VA spending package as soon as next week, according

to CQ. The measure would fund the Department of Energy and U.S. Army Corps of Engineers, among other agencies. When the House took it up in June, Rep. Nita Lowey of New York, ranking Democrat on Appropriations, complained that "Republicans are using America's veterans as pawns to force through cuts to clean energy research and harmful policy provisions that weaken environmental safeguards. . . . . With regard to the Energy and Water bill specifically, we are confronted with a partisan bill that contains cuts to many important priorities," including energy efficiency and renewable energy initiatives and "transformational science efforts, such as the successful and popular ARPA-E program." The Bill Provides appropriations to the Department of Energy (DOE) for Energy Programs, including:

- Energy Efficiency and Renewable Energy;
- Cyber Security, Energy Security, and Emergency Response;
- Electricity Delivery;
- Nuclear Energy;
- Fossil Energy Research and Development;
- Naval Petroleum and Oil Shale Reserves;
- the Strategic Petroleum Reserve (SPR);
- the SPR Petroleum Account;
- the Northeast Home Heating Oil Reserve;
- the Energy Information Administration;
- Non-Defense Environmental Cleanup;
- the Uranium Enrichment Decontamination and Decommissioning Fund;
- Science;
- Nuclear Waste Disposal;
- Advanced Research Projects Agency--Energy

NSF Implements 10 Big Ideas Plan for Transformative Research: NSF's strategic plan for FY 2018-2022 emphasizes on innovative and transformative research in many areas from transportation to manufacturing and agriculture. From the NSF strategic plan 2018-2022 (https://www.nsf.gov/pubs/2018/nsf18045/nsf18045.pdf): "Scientific breakthroughs start with a question, a big idea, about the nature of things that often leads to a fundamental shift in thinking. The ability to pursue and investigate that question, and to innovate along the way, is what enables the discoveries that ultimately transform the world. This plan illustrates the opportunities ahead with examples from some of NSF's "10 Big Ideas" for future investment. These bold, long-term research questions consider critical societal challenges and important lines of scientific inquiry where NSF aims to catalyze new breakthroughs. Partnerships with other federal agencies, nonprofits, private-sector collaborators, industry partners and the public will help advance these research areas. This plan also underscores where greater investments are needed; for example, in research infrastructure and broadening participation in the science, technology, engineering and mathematics (STEM) workforce. As highlighted in the 2018 Science and Engineering Indicators report, the number of non-STEM jobs requiring STEM skills is now on par with the number of STEM jobs in the U.S. As societies around the world transition to more knowledge-based economies, NSF is committed to preparing a 21st century workforce and ensuring that talented individuals from all sectors of our society have access to STEM learning.". The ten big ideas for NSF investments are:

- **Harnessing the Data Revolution**
- **The Future of Work at the Human-Technology Frontier**
- **Navigating the New Arctic**
- **Windows on the Universe: The Era of Multi-Messenger Astrophysics**
- **The Quantum Leap: Leading the Next Quantum Revolution**

- **Understanding the Rules of Life: Predicting Phenotype**
- **Mid-scale Research Infrastructure**
- **NSF 2026: Seeding Innovation**
- **Growing Convergence Research at NSF**
- **NSF INCLUDES (Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science): Enhancing STEM through Diversity and Inclusion**

US Government White House Research Priorities: If confirmed by the Senate, Droegemeier will start his job with the fiscal 2020 budget process already under way. This week, acting OSTP Director, Michael Kratsios and Office of Management and Budget Director Mick Mulvaney spelled out research priorities, including artificial intelligence, autonomous systems, quantum, hypersonics, a modernized nuclear deterrent, and "advanced microelectronics, computing, and cyber capabilities." R&D should also aim to improve resilience and protect the nation and critical infrastructure from natural hazards, physical threats, cyber attacks and threats from drones or biological agents, the memo says. The document calls for strong collaboration among academia, industry, and government, and "Innovative partnership models." The memo includes the following R&D priority areas:

- **Security of the American People** – Based on the National Security Strategy,[2] the President calls for "leadership in research, technology, invention, and innovation" and investment in R&D to maintain military superiority. Specifically, the memo directs prioritized investment in "AI, autonomous systems, hypersonics, a modernized nuclear deterrent, and advanced microelectronics, computing, and cyber capabilities." Agencies are also directed to improve the security and resilience of U.S. critical infrastructure from "natural hazards, physical threats, cyber-attacks, and emerging threats from autonomous systems and biological agents." This includes a range of activities from border security to better weather prediction.
- **American Leadership in Artificial Intelligence, Quantum Information Sciences, and Strategic Computing** – The memo states that these areas are vital to U.S. national security and economic competitiveness. AI research should include "machine learning, autonomous systems, and applications at the human-technology frontier." Activities in quantum information sciences (QIS) should aim to develop the next generation of QIS theory, devices, and applications. The memo directs agencies to prioritize investment in research and infrastructure to "maintain U.S. leadership in strategic computing, from edge devices to high-performance computing, that accelerates delivery of low power, high performance devices; supports a national high-performance computing ecosystem; and explores novel pathways to advance computing in a post-Moore's Law era."
- **American Connectivity and Autonomy** – Agencies should support R&D "to manage spectrum, secure networks, and increase access to high-speed internet" to support the development and deployment of advanced communications networks, including 5G wireless networks. Additional prioritization is also given to autonomous driving systems and unmanned aircraft systems (UAS).

[2] National Security Strategy of the United States of America, December 2017: https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf

- **American Manufacturing** – The memo highlights the importance of manufacturing technologies for job creation and to strengthen the U.S. manufacturing industrial base, including the need for agencies to work in collaboration with industry where appropriate. Priority areas highlighted in the memo include: "smart and digital manufacturing, and advanced industrial robotics, especially systems enabled by the industrial internet of things (loT), machine learning, and AI." The memo also highlights advanced materials and associated processing technologies; bio-based manufacturing; and semiconductor design and fabrication.
- **American Space Exploration & Commercialization** – The memo states, "Research investments should be focused on ensuring American leadership in space for long-duration spaceflight, in-space manufacturing, in-situ resource utilization, long-term cryogenic fuel storage and management, and advanced space-related power and propulsion capabilities. Agencies should prioritize demonstrations and flight tests to ensure an industrial base for commercial activity in space and on celestial bodies." Micro-gravity research to advance biopharmaceuticals and materials science is highlighted. Additionally, agencies should support R&D in advanced materials, additive manufacturing, optical communications, and machine learning.
- **American Energy Dominance** – The memo states, "Fueling America's greatness requires access to domestic sources of clean, affordable, and reliable energy." Agencies are directed to invest in early-stage, innovative technologies, and to rely on the private sector to support later-stage research, development, and commercialization. This is consistent with the Trump Administration's previous attempts to cut funding for applied research programs at the Department of Energy.
- **American Medical Innovation** – Agencies are directed to focus on basic research and translation. Areas of focus include personalized medicine, disease prevention, addressing the opioid crisis, infectious disease, mental health, and other public health threats. The memo highlights the importance of R&D to support healthcare for veterans, aging adults, and those with disabilities, as well as the need for agencies to work together to manage healthcare data.
- **American Agriculture** – Agencies are directed to "prioritize R&D that enables advanced and precision agriculture and aquaculture technologies, including the use of embedded sensors, data analytics, and machine learning techniques." Agencies are also directed to "prioritize investments in pre-competitive research regarding the safety of microorganisms, plants, and animals developed using gene editing, in order to greater leverage biotechnology products for agriculture."

Webinar and Events

Event: IEEE MTT-S Webinar: One Promise of 5G: Everyday Millimeter Waves - What this Means for Standards and Measurements
Sponsor: IEEE MTT-S
When: September 11, 2018; 12.00 PM – 1.00 AM
Website:
https://event.on24.com/eventRegistration/EventLobbyServlet?target=reg20.jsp&partnerref=Email1&et_rid=2035965180&et_mid=83719181&eventid=1831204&sessionid=1&key=B3B2BF245FF1C7E9FF986A6CC0E8FFD0&regTag=&sourcepage=register

Brief Description: 5G appears to be upon us. In June the 3GPP has announced the completion of the Release-15 standard in June—the first drop of which was announced last December. Multiple mobile operators around the world have announced commercialization timing and the industry is struggling to address the mix of hype, new technology, and very aggressive schedules. Release-15 includes radio capabilities in the sub 6GHz range (FR1) as well as for millimeter-wave frequencies from 24-52GHz (FR2). The addition of the millimeter-wave spectrum to commercial wireless has pulled a new and wider audience into the arena of managing highly-directional radio propagation. And the 5G commercial wireless industry will have scale, cadence, and cost pressures that the aerospace & defense and satellite industries have yet to confront. These new cost and time-pressures impact designs, materials and lifecycles—and, of course, putting a quantitative measure on their performance and functionality is no small part of that impact. Test and measurement of these systems means using heretofore expensive equipment, time-consuming procedures, over-the-air techniques, and new end-to-end validation processes based on an unprecedented mobile use-model. The newness of FR2 means that the standard still has ways to go. The list of exceptions in Rel-15 and the number of items deferred to Rel-16 is a good indicator of what is yet to be done. And as of July, 2018, 3GPP RAN4 and RAN5 are still engaged in discussions (and not yet decisions) about over-the-air test methods (and their dramatic impact on measurement uncertainty) for such mundane measurements as power, spurious emissions, spectral emissions (SEM), and error-vector magnitude (EVM); and much work is still to be done for receiver measurements. This talk will cover the status of the 3GPP NR spec and some of its impacts on hardware and system design. It will also cover some examples of the tough measurement challenges confronting the industry as well as what to expect as the standard and the industry evolve.
To register to the webinar: Please register at the above website.

Event: Getting it Right: The Importance of Rigorous Validation for High-Sensitivity Immunoassays
Sponsor: Science: AAAS
When: September 12, 2018; 12.00 PM – 1.00 AM
Website:
http://view6.workcast.net/register?cpak=5143758545719797&referrer=Blast3&et_rid=79350415&et_cid=2350511
Brief Description: Finding robust, reliable biomarkers for potential clinical application is an ongoing challenge. Equally challenging is proper validation of assays for detection and measurement of these biomarkers. During this webinar, our expert speaker will discuss how to optimize the collection of validation data for the ultrahigh sensitivity measurement of cytokines interleukin-17A and IL-17F, and describe the use of validation samples prepared with endogenous molecules generated using whole-blood ex vivo stimulation. Other critical topics covered will include:

- The importance of parallelism, including minimum required dilution (MRD) confirmation
- Precision and proposed confidence limits for acceptance criteria
- Comparison of performance using endogenous vs. surrogate validation samples
- The matrix effect and MRD—comparing results from endogenous vs. spiked samples
- An explanation of the ex vivo stimulation method protocol.

To register to the webinar: Please register at the above website.

Event: Math Frontiers Monthly Webinar Series
Sponsor: National Academies
When: September 11, 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.***
As each webinar approaches, we will post more information about the speakers on the webinar series page at nas.edu/mathfrontiers.
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: Cyberinfrastructure for Biological Research (CIBR)
Agency: National Science Foundation NSF PD 18-1165
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505538&org=NSF&sel_org=NSF&from=fund
Brief Description: Biological processes at all scales from molecules to ecosystems are determined through the encoding, exchange, and interpretation of information. Advances in the biological sciences are enabled by our capacity to acquire, manage, represent, and analyze biological information through the use of modern instrumentation and computational tools. Developing an integrated understanding of cell function, regulatory systems, or ecological responses to environmental change are just a few examples of biological research areas that involve the acquisition, observation, experiment, and modeling of large amounts of data. Proposals are invited that offer potentially transformative outcomes through the development of informatics tools and resources that (1) offer novel and significant advances in the use of biological data and/or (2) will enable and stimulate advances through their impact on a significant segment of the biological research community supported by the NSF BIO Directorate. CIBR supports development in areas that may include (but are not limited to):

- Databases consisting of primary data obtained through observation, experimentation, modelling, or synthesis of existing data into new derivative products.
- New tools for the construction, operation, and utilization of biological databases, including database architectures and infrastructures, data standards designed to be extendable to different biological domains, and data structures for new types of biological information
- Software or ontologies related to the retrieval, integration, and use of heterogeneous biological information, for example, data discovery, data-mining, data integration or visualization
- Tools that facilitate biological research workflows, analytic pathways, or integration between the field and the laboratory, or between observation, experiments and models

- Software and methods for making use of new technologies for the acquisition, communication or visualization of biological data
- Infrastructure that provides broad community access to shared computational and data resources, commonly referred to as scientific gateways.

Awards: Standard Grants
Letter of Intent: Not Required
Full Proposal Submission Deadline: Anytime
Contacts: Peter H. McCartney pmccartn@nsf.gov (703) 292-8470
Jennifer W. Weller jweller@nsf.gov (703) 292-7121

Grant Program: Instrument Capacity for Biological Research (ICBR)
Agency: National Science Foundation NSF PD 18-1108
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505542&org=NSF&sel_org=NSF&from=fund
Brief Description: The "Rules of Life" is one of the NSF's ten big ideas for future investment. Understanding these basic "Rules" and how they operate across scales of time, space, and complexity to determine how genes function and interact with the environment will enable us to predict the phenotype, structure, function, and behavior of organisms. Providing scientists with the instrumentation and resources necessary to make these discoveries requires investments in new instrumentation capabilities and extending access to existing instrumentation and experimental facilities. Competitive proposals under ICBR will expand access to new or existing instrumentation that supports a significant segment of the biological research community conducting research in areas supported by the NSF Biological Sciences Directorate (BIO). The program will support activities that (1) enhance the access to and dissemination of innovative instrumentation, and (2) promote and enable access to existing instrumentation facilities (ie. imaging, genomics, proteomics, etc.) at the regional or national level.
ICBR supports capacity building that may include (but is not limited to):

- Building a community of instrument users through broadening dissemination of new or significantly improved instrumentation
- Broadening of access to instrumentation or experimental facilities at the regional or national level that provide infrastructure for data collection that might not be otherwise available to researchers due to the cost of instrumentation, the lack of available resources on campus, or the requirement of otherwise unavailable technical expertise.

Awards: Standard Grants
Letter of Intent: Not Required
Full Proposal Submission Deadline: Anytime
Contacts: Robert D. Fleischmann rfleisch@nsf.gov (703) 292-7191
Peter H. McCartney pmccartn@nsf.gov (703) 292-8470

Grant Program: Infrastructure Innovation for Biological Research (IIBR)
Agency: National Science Foundation NSF 18-595
RFP Website: https://www.nsf.gov/pubs/2018/nsf18595/nsf18595.htm
Brief Description: The Infrastructure Innovation for Biological Research (IIBR) solicitation supports new and innovative research in biological informatics, instrumentation and associated methods, as well as multidisciplinary approaches to these broad themes that address needs in basic biological research. These awards support pioneering approaches that develop de novo infrastructure, significantly redesign existing infrastructure, or apply existing infrastructure in novel ways. Activities must demonstrate the

potential to advance or transform research in biology as supported by the Directorate for Biological Sciences at the National Science Foundation (https://nsf.gov/bio).
Awards: Standard Grant **Anticipated Funding Amount:** $10,000,000
Letter of Intent: Not Required
Full Proposal Submission Deadline: Anytime
Contacts: Robert Fleischmann, telephone: (703) 292-7191, email: rfleisch@nsf.gov

- Steve Ellis, telephone: (703) 292-7876, email: stellis@nsf.gov
- Jennifer W. Weller, telephone: (703) 292-7121, email: jweller@nsf.g

---

Grant Program: Infrastructure Capacity for Biology (ICB) Core Programs
Agency: National Science Foundation NSF 18-594
RFP Website: https://www.nsf.gov/pubs/2018/nsf18594/nsf18594.htm
Brief Description: The Infrastructure Capacity for Biology (ICB) supports the development, expansion, or improvement of infrastructure that will enable fundamental research within the biological sciences. Infrastructure supported under this solicitation may include cyberinfrastructure, instrumentation, biological collections, living stocks, field stations, marine labs, or other resources that are shared and openly accessible. Proposals submitted to the ICB solicitation must make a compelling case that the proposed infrastructure will advance or transform research in areas of science that are supported by the Directorate for Biological Sciences (BIO) at the National Science Foundation.

While other programs in the Division of Biological Infrastructure (DBI) focus on innovative research leading to new infrastructure or sustained operation of mature infrastructure, this solicitation focuses on supporting projects that seek to deliver, enable access to, or substantially improve infrastructure that will advance the capacity of today's scientific community to conduct leading edge research. The impacts of the activities funded by awards made through this solicitation will be reflected not just in the quality of their products, but by the novel and transformative science outcomes that will be achieved by the users of these resources. Infrastructure projects that will advance any field of research supported by the Directorate for Biological Sciences are eligible for support under this program.
Awards: Standard Grant **Anticipated Funding Amount:** $40,000,000
Letter of Intent: Not Required
Full Proposal Submission Deadline: Anytime

- **Contacts:** Peter H. McCartney, telephone: (703) 292-8470, email: pmccartn@nsf.gov
- Robert D. Fleischmann, telephone: (703) 292-7191, email: rfleisch@nsf.gov
- Reed S. Beaman, telephone: (703) 292-7163, email: rsbeaman@nsf.gov

---

Grant Program: Small Business Innovation Research Program Phase I (SBIR) December 2018
Agency: National Science Foundation NSF 18-593
RFP Website: https://www.nsf.gov/pubs/2018/nsf18593/nsf18593.htm
Brief Description: The SBIR program is Congressionally mandated and intended to support scientific excellence and technological innovation through the investment of federal research funds to build a strong national economy by stimulating technological innovation in the private sector; strengthening the role of small business in meeting federal research and development needs; increasing the commercial application of federally supported research results; and fostering and encouraging participation by socially and economically disadvantaged and women-owned small businesses.The SBIR program at NSF solicits proposals from the small business sector consistent with NSF's mission to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.

Because the program has no topical or procurement focus, the NSF offers very broad solicitation topics that are intended to encourage as many eligible science- and technology-based small businesses as

possible to compete for funding. The topics are detailed on the website. In many cases, the program is also open to proposals focusing on technical and market areas not explicitly noted in the aforementioned topics.
Awards: Standard Grant **Anticipated Funding Amount:** $33,750,000
Letter of Intent: Not Required
Full Proposal Submission Deadline: December 04, 2018
Limit on Number of Proposals per Organization: 1
An organization may submit no more than ONE Phase I proposal to this SBIR/STTR cycle (where SBIR/STTR cycle is defined to include the SBIR Phase I solicitation and the STTR Phase I solicitation with a December 2018 deadline). This eligibility constraint will be strictly enforced. In the event that an organization exceeds this limit, the first proposal received will be accepted, and the remainder will be returned without review. Please inform Atam Dhawan, Senior Vice Provost for Research by Octiber 1. 2018, if you are interested in submitting a proposal for this RFP.
Contacts: Henry Ahn, Biomedical (BM) Technologies, telephone: 703-292-7069, email: hahn@nsf.gov

- Peter Atherton, Information Technologies (IT), telephone: 703-292-8772, email: patherto@nsf.gov
- Anna Brady-Estevez, Chemical and Environmental Technologies (CT), telephone: 703-292-7077, email: abrady@nsf.g

---

Grant Program: Collaborative Research in Computational Neuroscience (CRCNS) Innovative Approaches to Science and Engineering Research on Brain Function
Agency: National Science Foundation NSF 18-591
RFP Website: https://www.nsf.gov/pubs/2018/nsf18591/nsf18591.htm
Brief Description: Computational neuroscience provides a theoretical foundation and a rich set of technical approaches for understanding complex neurobiological systems, building on the theory, methods, and findings of computer science, neuroscience, and numerous other disciplines.

Through the CRCNS program, the National Science Foundation (NSF), the National Institutes of Health (NIH), the German Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung, BMBF), the French National Research Agency (Agence Nationale de la Recherche, ANR), the United States-Israel Binational Science Foundation (BSF), Japan's National Institute of Information and Communications Technology (NICT), and the State Research Agency (Agencia Estatal de Investigación, AEI) and National Institute of Health Carlos III (Instituto de Salud Carlos III, ISCIII), both of Spain, support collaborative activities that will advance the understanding of nervous system structure and function, mechanisms underlying nervous system disorders, and computational strategies used by the nervous system.
Two classes of proposals will be considered in response to this solicitation:

- Research Proposals describing collaborative research projects, and
- Data Sharing Proposals to enable sharing of data and other resources.

Domestic and international projects will be considered. As detailed in the solicitation, international components of collaborative projects may be funded in parallel by the participating agencies. Specific CRCNS opportunities for parallel funding are available for bilateral US-German Research Proposals, US-German Data Sharing Proposals, US-French Research Proposals, US-French Data Sharing Proposals, US-Israeli Research Proposals, US-Israeli Data Sharing Proposals, US-Japanese Research Proposals, US-Japanese Data Sharing Proposals, US-Spanish Research Proposals, US-Spanish Data Sharing Proposals, and multilateral proposals involving the United States and two or more CRCNS partner countries (please see Section VIII of the solicitation for country-specific instructions and limitations).

Appropriate scientific areas of investigations may be related to the interests of any of the participating funding organizations. Questions concerning a particular project's focus, direction, and

relevance to a participating funding organization should be addressed to the appropriate person in the list of agency contacts found in Section VIII of the solicitation.
Awards: Standard Grant **Anticipated Funding Amount:** $20,000,000
Letter of Intent: Not Required
Full Proposal Submission Deadline: November 27, 2018
Contacts: Kenneth Whang, CRCNS Program Coordinator - NSF; Program Director, Division of Information and Intelligent Systems, National Science Foundation, telephone: (703) 292-5149, fax: (703) 292-9073, email: kwhang@nsf.gov

- Jasmine Owens, CRCNS Administrative Coordinator - NSF; Program Analyst, Division of Information and Intelligent Systems, National Science Foundation, telephone: (703) 292-8377, fax: (703) 292-9073, email: jowens@nsf.gov

---

Grant Program: NSF/Intel Partnership on Foundational Microarchitecture Research (FoMR)
Agency: National Science Foundation NSF 18-588
RFP Website: https://www.nsf.gov/pubs/2018/nsf18588/nsf18588.htm
Brief Description: The confluence of transistor scaling, increases in the number of architecture designs per process generation, the slowing of clock frequency growth, and recent success in research exploiting thread-level parallelism (TLP) and data-level parallelism (DLP) all point to an increasing opportunity for innovative microarchitecture techniques and methodologies in delivering performance growth in the future.

The NSF/Intel Partnership on Foundational Microarchitecture Research will support transformative microarchitecture research targeting improvements in instructions per cycle (IPC). This solicitation seeks microarchitecture technique innovations beyond simplistic, incremental scaling of existing microarchitectural structures. Specifically, FoMR seeks to advance research that has the following characteristics: (1) high IPC techniques ranging from microarchitecture to code generation; (2) "microarchitecture turbo" techniques that marshal chip resources and system memory bandwidth to accelerate sequential or single-threaded programs; and (3) techniques to support efficient compiler code generation. Advances in these areas promise to provide significant performance improvements that continue the trends characterized by Moore's Law.
Awards: Standard Grant **Anticipated Funding Amount:** $2,500,000
Letter of Intent: Not Required
Full Proposal Submission Deadline: November 28, 2018
Contacts: Yuanyuan Yang, Program Director, CCF, telephone: (703) 292-8910, email: yyang@nsf.gov

- Matt Haycock, Center Executive Sponsor, Vice President, Intel Labs, telephone: (503) 712-2872, email: matthew.haycock@intel.com
- Hong Wang, Center Managing Sponsor, Intel Fellow, Intel Labs, telephone: (408) 653-7075, email: hong.wang@intel.com
- Jeff Parkhurst, Center Program Director, Intel Labs, telephone: (916) 356-2508, email: jeff.parkhurst@intel.com

---

Grant Program: Instrument Capacity for Biological Research (ICBR)
Agency: National Science Foundation NSF PD 18-1108 NSF 594
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505542&org=NSF&sel_org=NSF&from=fund
Brief Description: Advances in the biological sciences are enabled by our capacity to acquire, manage, represent, and analyze biological information through the use of modern instrumentation and computational tools. Instrumentation Capacity for Biological Research (ICBR) invites proposals that

specifically enable increased access to state of the art instrumentation in support of the biological sciences by (1) increasing access to a community of users through broadening of dissemination of such instrumentation, and (2) broadening access to state-of-the art instrumentation and facilities at a regional or national level.

The "Rules of Life" is one of the NSF's ten big ideas for future investment. Understanding these basic "Rules" and how they operate across scales of time, space, and complexity to determine how genes function and interact with the environment will enable us to predict the phenotype, structure, function, and behavior of organisms. Providing scientists with the instrumentation and resources necessary to make these discoveries requires investments in new instrumentation capabilities and extending access to existing instrumentation and experimental facilities. Competitive proposals under ICBR will expand access to new or existing instrumentation that supports a significant segment of the biological research community conducting research in areas supported by the NSF Biological Sciences Directorate (BIO). The program will support activities that (1) enhance the access to and dissemination of innovative instrumentation, and (2) promote and enable access to existing instrumentation facilities (ie. imaging, genomics, proteomics, etc.) at the regional or national level.

ICBR supports capacity building that may include (but is not limited to):

- Building a community of instrument users through broadening dissemination of new or significantly improved instrumentation
- Broadening of access to instrumentation or experimental facilities at the regional or national level that provide infrastructure for data collection that might not be otherwise available to researchers due to the cost of instrumentation, the lack of available resources on campus, or the requirement of otherwise unavailable technical expertise.

Awards: Standard Grant **Anticipated Funding Amount:** $10,000,000
Letter of Intent: Not Required
Full Proposal Submission Deadline: Proposals Accepted Anytime
Contacts: Robert D. Fleischmann rfleisch@nsf.gov (703) 292-7191
Peter H. McCartney pmccartn@nsf.gov (703) 292-8470

Grant Program: Cyberinfrastructure for Biological Research (CIBR)
Agency: National Science Foundation NSF 18-594 PD 18-1165
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505538&org=NSF&sel_org=NSF&from=fund
Brief Description: Biological processes at all scales from molecules to ecosystems are determined through the encoding, exchange, and interpretation of information. Advances in the biological sciences are enabled by our capacity to acquire, manage, represent, and analyze biological information through the use of modern instrumentation and computational tools. Developing an integrated understanding of cell function, regulatory systems, or ecological responses to environmental change are just a few examples of biological research areas that involve the acquisition, observation, experiment, and modeling of large amounts of data. Proposals are invited that offer potentially transformative outcomes through the development of informatics tools and resources that (1) offer novel and significant advances in the use of biological data and/or (2) will enable and stimulate advances through their impact on a significant segment of the biological research community supported by the NSF BIO Directorate.

Awards in CIBR should produce, or substantially expand a finished product that will have demonstrable impact in advancing biological research. Proposals should convey their likelihood of success through greater attention to user engagement, design quality, engineering practices, management plan, and dissemination. Budgets and award durations should accommodate the iterative process of bringing a proof of concept into a robust, broadly-adopted cyberinfrastructure. Development proposals are more outcome-driven than Innovation awards and are typically assessed on their perceived contribution to a broad

portfolio of cyberinfrastructure resources. Synergies with, and leveraging of, other existing and ongoing resources are taken into consideration.
CIBR supports development in areas that may include (but are not limited to):

- Databases consisting of primary data obtained through observation, experimentation, modelling, or synthesis of existing data into new derivative products.
- New tools for the construction, operation, and utilization of biological databases, including database architectures and infrastructures, data standards designed to be extendable to different biological domains, and data structures for new types of biological information
- Software or ontologies related to the retrieval, integration, and use of heterogeneous biological information, for example, data discovery, data-mining, data integration or visualization
- Tools that facilitate biological research workflows, analytic pathways, or integration between the field and the laboratory, or between observation, experiments and models
- Software and methods for making use of new technologies for the acquisition, communication or visualization of biological data
- Infrastructure that provides broad community access to shared computational and data resources, commonly referred to as scientific gateways.

Higher priority will be placed on proposals to create computational tools and data resources that are applicable to a broad range of biological research questions and shared by a broad user community. Proposals to develop tools or databases that are limited to a specific research project, laboratory, or institution should be submitted to the relevant BIO programs that would normally support that research.
Awards: Standard Grant **Anticipated Funding Amount:** $10,000,000
Letter of Intent: Not Required
Full Proposal Submission Deadline: Proposals Accepted Anytime
Contacts: Peter H. McCartney pmccartn@nsf.gov (703) 292-8470
Jennifer W. Weller jweller@nsf.gov (703) 292-7121

Grant Program: Division of Environmental Biology (DEB) Core Programs
Agency: National Science Foundation NSF 18-587
RFP Website: https://www.nsf.gov/pubs/2018/nsf18587/nsf18587.htm
Brief Description: The Division of Environmental Biology (DEB) Core Track supports research and training on evolutionary and ecological processes acting at the level of populations, species, communities, and ecosystems. DEB encourages research that elucidates fundamental principles that identify and explain the unity and diversity of life and its interactions with the environment over space and time. Research may incorporate field, laboratory, or collection-based approaches; observational or manipulative studies; synthesis activities; phylogenetic discovery projects; or theoretical approaches involving analytical, statistical, or computational modeling. Proposals should be submitted to the core clusters (Ecosystem Sciences, Evolutionary Processes, Population and Community Ecology, and Systematics and Biodiversity Sciences). DEB also encourages interdisciplinary proposals that cross conceptual boundaries and integrate over levels of biological organization or across multiple spatial and temporal scales. Research addressing ecology and ecosystem science in the marine biome should be directed to the Biological Oceanography Program in the Division of Ocean Sciences; research addressing evolution and systematics in the marine biome should be directed to the Evolutionary Processes or Systematics and Biodiversity Science programs in DEB.

All DEB programs also encourage proposals that leverage NSF-supported data networks, databases, centers, and other forms of scientific infrastructure, including but not limited to the National Ecological Observatory Network (NEON), Environmental Data Initiative (EDI), and Integrated Digitized Biocollections (iDigBio).

Rules of Life Track proposals that integrate across the scales in biological sciences are solicited to support research that spans from the population, species, community and ecosystem scales normally funded by DEB, to organismal, cellular and molecular scales typically funded by other divisions in the Biological Sciences. This track provides new opportunities to advance our understanding of the Rules of Life by new mechanisms for review and funding of proposals that would not ordinarily fit well within one division in the Biological Sciences Directorate.
Awards: Standard Grant **Anticipated Funding Amount:** $100,000,000
Letter of Intent: Not Required
Full Proposal Submission Deadline: Proposals Accepted Anytime
Contacts: Division of Environmental Biology, Phone: (703) 292-8480, email: debquestions@nsf.gov

---

National Institutes of Health

Grant Program: BRAIN Initiative: Team-Research BRAIN Circuit Programs - TeamBCP (U19 Clinical Trial Not Allowed)
Agency: National Institutes of Health RFA-NS-19-003
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-NS-19-003.html
Brief Description: Awards within this RFA will support research programs with 2-5 Research Projects focused on a high impact topic and cutting-edge technologies in large-scale recording and manipulation of circuits in vivo in the context of measurable behaviors. These research teams should offer resources and governance that bridge across institutional 'silos.' For example, research teams might comprise components across institutions or across colleges within a university. Projects should investigate neural function related to defined, ethologically relevant behaviors, well-defined neural systems, and/or biological mechanisms at an anatomic resolution of cells and circuits, and at a sub-second temporal resolution. We expect that awarded projects will become part of a consortium among BRAIN Initiative awardees in developing technologies, methods, expertise, and data and tools for sharing and reuse within the research community. There will be annual reviews by an External Advisory Board per award, with expanded programmatic site visits during years 2 and 4.
The proposed studies must relate to at least one of the seven major topic areas of the BRAIN 2025 report:
1. Discovering diversity: Identify and provide experimental access to the different cell types to determine their roles in the context of circuit function.
2. Maps at multiple scales: Generate structural and functional circuit diagrams that can span resolution from synapses to the whole brain.
3. The brain in action: Produce a dynamic picture of the functioning brain by developing and applying improved methods for large-scale monitoring of neural activity.
4. Demonstrating causality: Link brain activity to behavior with precise interventional tools that change neural circuit dynamics.
5. Identifying fundamental principles: Produce conceptual foundations about circuit dynamics and functional connectivity for understanding the biological basis of mental processes through development of new theoretical and data analysis tools.
6. Advancing human neuroscience: Develop innovative technologies to understand brain circuits and ensembles of circuits that inform understanding of the human brain and mechanisms for treating its disorders.
7. From BRAIN Initiative to the brain: Integrate new technological and conceptual approaches produced in Goals #1-6 to discover how dynamic patterns of neural activity are transformed into cognition, emotion, perception, and action in health and disease.
Award: Application budgets are not limited but need to reflect the actual needs of the proposed project.
Letter of Intent: September 30, 2018

Deadline: October 30, 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 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.

Grant Program: BRAIN Initiative: Research Opportunities Using Invasive Neural Recording and Stimulating Technologies in the Human Brain (U01 Clinical Trial Required)
Agency: National Institutes of Health RFA-NS-19-001
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-NS-19-001.html
Brief Description: Investigations within the human brain offer revolutionary, but challenging, opportunities for experimental investigation of how the human brain senses, thinks, perceives, remembers, plans, registers emotions, activates movements, and makes decisions. Invasive surgical procedures provide the unique ability to record and stimulate neurons within precisely localized brain structures in humans. However, human studies using invasive technology are often constrained by a limited number of patients and resources available to implement complex experimental protocols and are rarely aggregated in a manner that addresses research questions with appropriate statistical power. Therefore, this RFA seeks applications to assemble diverse, integrated, multi-disciplinary teams that cross boundaries of interdisciplinary collaboration to overcome these fundamental barriers and to investigate high-impact questions in human neuroscience. Projects should propose prospective testing and validation of explicit or model-driven hypotheses. Studies that offer deployment or development for high temporal resolution of behavioral quantification integrated with invasive recording of brain activity is encouraged, especially those that would transition to use in naturalistic environments outside of strict laboratory settings.

Projects should engage diverse, multidisciplinary teams consisting of clinicians, scientists, device engineers, data/computational scientists, regulatory specialists, and/or ethics specialists. Teams may be assembled within a single institution, but because of the likelihood of a limited number of patients at any single research center, integration of research teams across sites is strongly encouraged.
Awardees are expected to actively participate in a consortium work group, coordinated by the NIH, to identify consensus standards of practice, including neuroethical considerations, to collect and provide data for ancillary studies, and to aggregate and standardize data for dissemination among the wider scientific community. In the interest of iterative models of discovery, support for complementary animal studies are allowed if they validate or inform these empirical studies of human physiology. Applicants are expected to employ approaches guided by specified theoretical constructs, and are encouraged to employ quantitative, mechanistic models where appropriate.

We anticipate that implantable devices for most of these applications will rely on existing technology sufficiently advanced for an IRB Non-Significant Risk designation, or an FDA IDE without needing significant additional pre-clinical testing on the device. We also anticipate that newly IDE-approved devices may become available over the course of these awards. NIH BRAIN is supporting new device development and regulatory approval through other NIH BRAIN initiatives, including the availability of template Memoranda of Agreements (MOUs), Confidential Disclosure Agreements (CDAs) and Collaborative Research Agreements (CRAs) with various private and commercial device providers that may facilitate awardees to adopt novel technologies to fit their needs (see http://braininitiative.nih.gov/ for up to date information and NIH Scientific/Research contacts). Where appropriate, applicants are encouraged to anticipate potential and alternative plans for adopting newly available technologies. Furthermore, use of the cooperative agreement mechanism will allow awardees to negotiate the incorporation of new technologies by working through NIH Program staff in collaboration with technology providers.
Awards: Application budgets are not limited but need to reflect the actual needs of the proposed project.

Letter of Intent: October 14, 2018
Deadline: November 14, 2018 by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opport unity 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.

Grant Program: Virtual Consortium for Translational/Transdisciplinary Environmental Research (ViCTER) (R01 Clinical Trial Optional)
Agency: National Institutes of Health RFA-ES-18-007
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-ES-18-007.html
Brief Description: The primary goal for creating this ViCTER program is to support the exchange of knowledge among individuals from a diverse set of disciplines and accelerate the translation of scientific research into meaningful improvements in human health in those areas where environmental factors are known or suspected to influence the development or progression of disease. To accomplish this goal, each newly established collaborative team is expected to initiate research in the development and application of novel approaches for understanding the etiology of environmentally-related disease and, where appropriate, explore clinical and public health implications for diagnosis, treatment and/or prevention.
Each ViCTER consortium must consist of at least three key participants (the PD/PI plus two scientists designated by the PD/PI as "co-investigators") that together represent a newly collaborative team. For the purposes of this FOA, a team is considered newly collaborative if there are no co-authored original research publications among the PD/PI and co-investigators within the last 5 years (excluding reviews, white papers, commentaries etc.). NIEHS strongly recommends but does not require that at least one co-investigator be at a different institution from the PD/PI.

A critical component of the ViCTER program, particularly in cases where team members are located at different institutions, is their virtual aspect. This allows researchers at remote locations to form a consortium to integrate their research through the development of a virtual center that “houses” the overall ViCTER project. The PD/PI serves as the Director of the consortium and is responsible for scheduling regular conference calls (at least monthly) and in-person (at least yearly) meetings.

The PD/PI must propose a series of aims that are thematically related, foster collaboration among team members and reflect transdisciplinary/translational approaches to environmental health. The PD/PI and co-investigators should each have a substantial and meaningful role in developing and conducting the overall ViCTER project, demonstrated by each assuming primary responsibility for leading one or more of the proposed Specific Aims.

NIEHS particularly encourages applicants to propose research aims that are high risk/high reward which, if successful, are likely to contribute significantly to one or more areas of environmental science and be the motivator of future collaborative research.
The proposed ViCTER project must fall within the NIEHS mission. Environmental agents which are considered of primary interest for NIEHS include: industrial chemicals or manufacturing byproducts, metals, pesticides, herbicides, air pollutants and other inhaled toxicants, particulates or fibers, fungal, and bacterial or biologically derived toxins. Investigators who propose studies with a primary focus on NIEHS mission relevant exposures are encouraged to consider inclusion of other relevant environmental exposures (e.g., nutrition) in order to assess their role(s) as cofactors/modifiers of the risk or protection associated with the primary exposure(s). Applications that propose laboratory-based studies using only model compounds (i.e., those without potential for human exposure) must provide a clear, reasonable and specific description as to how research on the model compound will lead to a better understanding of the mechanisms involved in responses to specific environmental agents which are included in the mission responsibility of the NIEHS.

Awards: Application budgets are limited to $400,000 direct cost per year and should reflect the actual needs of the proposed project.
Letter of Intent: 30 days prior to the application due date
Deadline: December 3, 2018; December 2, 2019; December 1, 2020, 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.

Grant Program: NLM Research Grants in Biomedical Informatics and Data Science (R01 Clinical Trial Optional)
Agency: National Institutes of Health NLM PAR-18-896
RFP Website: https://grants.nih.gov/grants/guide/pa-files/PAR-18-896.html
Brief Description: The National Library of Medicine (NLM) supports innovative research and development in biomedical informatics and data science. The scope of NLM's interest in these research domains is broad, with emphasis on new methods and approaches to foster data driven discovery in the biomedical and clinical health sciences as well as domain-independent, reusable approaches to discovery, curation, analysis, organization and management of health-related digital objects. Biomedical informatics and data science draw upon many fields, including mathematics, statistics, information science, computer science and engineering, and social/behavioral sciences. Application domains include health care delivery, basic biomedical research, clinical and translational research, precision medicine, public health, biosurveillance, health information management in disasters, and similar areas. Biomedical informatics is the interdisciplinary field that studies and pursues the effective uses of biomedical data, information, and knowledge for scientific inquiry, problem solving and decision making, motivated by efforts to improve human health. NIH defines data science as the interdisciplinary field of inquiry in which quantitative and analytical approaches, processes, and systems are developed and used to extract knowledge and insights from increasingly large and/or complex sets of data.
Awards: Application budgets are limited to $250,000 per year in direct costs and need to reflect the actual needs of the proposed project.
Letter of Intent: Not required
Deadline: Standard dates apply, 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.

Grant Program: BRAIN Initiative: Development of Novel Tools to Probe Cell-Specific and Circuit-Specific Processes in Human and Non-Human Primate Brain (UG3/UH3 Clinical Trial Optional)
Agency: National Institutes of Health RFA-MH-19-135
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-19-135.html
Brief Description: This FOA is designed to support development and validation of novel tools to facilitate the detailed analysis and/or manipulation of cells and circuits and provide insights into the neural circuitry and structure underlying complex behaviors in humans and non-human primates and other mammalian brains (e.g., sheep, pig). The human brain consists of an estimated one hundred billion neurons and similar number of supporting glial cells that are uniquely organized to confer the extraordinary computational activities of the brain. Considerable progress has been made in defining the cytology and signal transduction processes in the CNS, but circuit-level function and the neural mechanisms of cognition and behavior remain poorly understood. Cell-type and circuit-specific

manipulation strategies are key technical factors in addressing these important areas and represent attractive strategies to treat brain disorders. This initiative is focused on developing tools (or vastly improving existing tools) that will ultimately enable access to individual cells and defined groups of cells within neuronal circuits of the human brain. In order to achieve these goals, it is acknowledged that the use of large brains such as non-human primates, sheep and pig will be instrumental in this process. Development of tools that are applicable to human or non-human primate brains should focus on overcoming barriers to use of such tools (i.e., opto/chemo and magnetogenetic acutators). 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 innovative technologies (e.g., CLARITY, expansion microscopy, MERFISH, and several other imaging breakthroughs) allows 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 engineers, chemists, material scientists, nanobiologists, 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: 30 days prior to the application due date.
Deadline: October 9, 2018; September 26, 2019 and September 28, 2020 , 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.

Grant Program: Regenerative Medicine Innovation Project (RMIP) Investigator-Initiated Studies (U01 – Clinical Trial Not Allowed)
Agency: National Institutes of Health RFA-HL-18-030
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-HL-18-030.html
RFA-HL-18-031, UG3/UH3 Exploratory/Developmental Phased Award Cooperative Agreement
RFA-HL-18-033, UT2 Small Business Technology Transfer (STTR) Cooperative Agreement – Fast-Track
RFA-HL-18-035, U44 Small Business Innovation Research (SBIR) Cooperative Agreement - Fast-Track
Brief Description: Applicants are strongly encouraged to submit research applications that demonstrate potential to catalyze sustained and accelerated development of the RM field through contributing to the knowledge critical for clinical testing, stem cell characterization and authentication, cGMP compliant stem cell production, in vivo stem cell tracking and monitoring, data standards development, and data sharing. It is expected that submitted applications will address the following:

- Preclinical studies that contribute to conducting clinical trials that address specific clinical indications;
- Testing human adult stem cells in well-developed animal models;
- Monitoring stem cell function and integration *in vivo*;

- Methods for in-depth stem cell characterization and deep fingerprinting, and utilization of standards;
- Interactions with FDA regarding a future IND or IDE application (such as having had a pre-IND meeting and other communications);
- Further development of standards and cGMP for adult stem cell-based RM products;
- Leveraging extant cell production facilities for product preparation and qualification; and
- Contributing to a better and shared understanding of current technical and operational barriers as well as regulatory science issues and how to overcome them.

Awards: The total budget (Federal award and non-Federal matching contributions) should reflect the actual needs of the proposed project. While annual project budgets should reflect the actual costs anticipated in each year, the Federal share of this award must not exceed $250,000 in direct costs per year. The recipient is required to provide at least a 1:1 match of the Federal funds requested (for Direct and Indirect/F&A costs) in the form of non-Federal contributions.
Letter of Intent: September 19, 2018
Deadline: October 19, 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.
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: Short-term Mentored Career Enhancement Awards in Mobile and Wireless Health Technology and Data Analytics: Cross-Training at the intersection of Behavioral and Social Sciences and STEM Disciplines (K18 Independent Clinical Trial Not Allowed)
Agency: National Institutes of Health PAR-18-881
RFP Website: https://grants.nih.gov/grants/guide/pa-files/PAR-18-881.html
Brief Description: The objective of the Career Enhancement Award for Experienced Investigators (K18) is to provide support for experienced scientists who either wish to broaden their scientific capabilities or to make changes in their research careers by acquiring new research skills or knowledge. The purpose of this FOA is to provide such investigators with support for an intensive period of mentored research experience to acquire new research capabilities in mobile and wireless health technology and data analytics that align with research areas supported by the sponsoring NIH Institute(s)/Center(s). Such experiences will afford candidate investigators protected time to: 1) enrich and expand their expertise and research programs through retooling in new techniques, emerging technologies, and/or scientific areas; and/or 2) redirect their research programs in new trajectories; and/or 3) catalyze research collaborations in new research directions.
Candidates will not be required to have active research grant support at the time of application. However, they will be expected to identify one or more research mentors with the relevant expertise who are established, well-qualified, and willing to sponsor the short-term research career development experience. It is expected that this initiative will lead to new and augmented research collaborations that will be competitive for future NIH funding.
Research Scope
The goal of the program is to support the development of research capability in mobile and wireless health technology (e.g., wearable devices, mobile applications, electronic health records, data analytics). Special emphasis will be given to independent behavioral and social sciences investigators who seek to train in a STEM discipline (e.g., big data analysis, computational modeling, engineering, computer science, and mathematics) or to STEM scientists who wish to extend their career development in a behavioral and social science discipline.
Awards: Award budgets are composed of salary and other program-related expenses.
Letter of Intent: Not required

Deadline: July 12, 2019; July 12, 2020;, 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.

Department of Defense/US Army/DARPA/ONR

Grant Program: Complex Traumatic Brain Injury Rehabilitation Research Clinical Research Award
Agency: Department of Defense Dept. of the Army – USAMRAA W81XWH-18-CTRR-CRA
Website: http://cdmrp.army.mil/funding/dmrdp
Brief Description: The FY18 PH/TBIRP CTRR-CRA is intended to support clinical research focused on understanding the clinical sequelae and mechanisms of recovery associated with TBI and TBI rehabilitation interventions. The overarching goals of this award are to address TBI-related impairments and deficits, including multimodal, and cognitive dysfunction to (1) develop and validate rehabilitation outcome measures; (2) systematically analyze standard of care cognitive interventions to identify optimal treatment ingredients; and (3) improve clinician-driven assessment strategies to guide return-to-duty decision making.

The FY18 PH/TBIRP CTRR-CRA seeks research to develop and validate novel outcome measures that will characterize and track functional cognitive performance in Service members and relevant populations with cognitive dysfunction following TBI; and to identify key treatment ingredients to optimize cognitive rehabilitation following TBI, as consistent with the mission of the JPC-8/CRMRP. The proposed research must be relevant to active duty Service members, Veterans, and their beneficiaries. It is expected that any research findings will also provide benefit to the general population.

The FY18 PH/TBIRP CTRR-CRA mechanism supports applied and translational clinical research to advance the development of knowledge and materiel products for rehabilitation and restoration of function following TBI. Applicants should explain how their work will inform the development, refinement, and/or revision of existing standards of care, clinical recommendations, or guidelines.
Awards: Various; Available Funding: $4,000,000.
Proposal Deadline: Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), September 24, 2018 • Invitation to Submit an Application: October 2018 • Application Submission Deadline: 11:59 p.m. ET, December 17, 2018
Contact Information: CDMRP Help Desk Phone: 301-682-5507 Email: help@eBRAP.org

---

Grant Program: Young Faculty Award
Agency: Department of Defense DARPA DARPA-RA-18-02
Website: https://www.darpa.mil/work-with-us/opportunities
Brief Description: The Defense Advanced Research Projects Agency (DARPA) Young Faculty Award (YFA) program aims to identify and engage rising stars in junior faculty positions in academia and equivalent positions at non-profit research institutions and expose them to Department of Defense (DoD) and National Security challenges and needs. In particular, this YFA will provide high-impact funding to elite researchers early in their careers to develop innovative new research directions in the context of enabling transformative DoD capabilities. The long-term goal of the program is to develop the next generation of scientists and engineers in the research community who will focus a significant portion of their future careers on DoD and National Security issues. DARPA is particularly interested in identifying

outstanding researchers who have previously not been performers on DARPA programs, but the program is open to all qualified applicants with innovative research ideas.
Eligibility Requirements: Participation in the YFA program is limited to any current tenure-track Assistant or Associate Professors and to tenured Assistant or Associate Professors within three (3) years of their tenure appointment at a U.S. institution of higher education or equivalent at a U.S. non-profit science and technology research institutions. Proposals are not being sought from foreign organizations; however, foreign organizations may be a member of a team in a subcontractor role. Previous YFA recipients are not eligible to apply to this or any future YFA program. Please see Section III for more details.
Awards: Each award will include a 24-month base period (a maximum of $500,000) and a 12-month option period (a maximum of $500,000).
Proposal Deadline: Executive Summary Due Date: September 10, 2018, 4:00 p.m. o FAQ Submission Deadline: November 8, 2018, 4:00 p.m. See Section VIII.A. o Full Proposal Due Date: November 13, 2018, 4:00 p.m.
Contact Information: RA Coordinator YFA2019@darpa.mil

Grant Program: DoD Accelerating Innovation in Military Medicine Research Award
Agency: Department of Defense DARPA W81XWH-18-DMRDP-AIMM
Website: http://cdmrp.army.mil/funding/dmrdp
Brief Description: The U.S. Army Medical Research and Materiel Command's (USAMRMC) mission is to responsively and responsibly create, develop, deliver, and sustain medical capabilities for the Warfighter. The AIMM initiative was created to accelerate transformational biomedical research for our Armed Forces and Nation. The mission of the AIMM initiative is to encourage, identify, and enable innovative research that leads to cross-cutting solutions to military health threats. The AIMM Research Award is intended to support highly creative and conceptually innovative high-risk research with the potential to accelerate critical discoveries or major advancements that will significantly impact military health and medicine. AIMM initiative funding supports novel research concepts and other efforts that initiate or enhance potential game-changers that may not be supported by other funding mechanisms or core programs.
Awards: Appropriations for the AIMM initiative in FY17 totaled $3 million (M). The FY18 appropriation is $3M.
Proposal Deadline: Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), September 19, 2018 • Invitation to Submit an Application: November 9, 2018 • Application Submission Deadline: 11:59 p.m. ET, January 2, 2019
Contact Information: CDMRP Help Desk Phone: 301-682-5507 Email: help@eBRAP.org

---

Grant Program: BROAD AGENCY ANNOUNCEMENT (BAA) for Extramural Biomedical Research and Development
Agency: Department of Defense Dept. of the Army – USAMRAA W81XWH-18-S-SOC1
Website: http://cdmrp.army.mil/; http://www.dcbids.net/bid-opportunities/2018/07/28/8804867-DoD-Vision-Investigator-Initiated-Research-Award.html
Brief Description: This BAA is intended to solicit extramural research and development ideas using the authority provided by United States Code, Title 10, Section 2358. This BAA is issued under the provisions of the Competition in Contracting Act of 1984 (Public Law 98-369), as implemented in Federal Acquisition Regulation 6.102(d) (2) and 35.016 and in DoD Grant and Agreement Regulations (DoDGARs) 22.315. In accordance with FAR 6.102, projects funded under this BAA must be for basic and applied research to support scientific study and experimentation directed toward advancing the state-

of-the-art or increasing knowledge or understanding rather than focusing on development of a specific system or hardware solution. Research and development funding through this BAA are intended and expected to benefit and inform both military and civilian medical practice and knowledge. This BAA provides a general description of USSOCOM's research and development programs, including research areas of interest, evaluation and selection criteria, pre-proposal/preapplication and full proposal/application preparation instructions, and general administrative information. Submission of a pre-proposal/pre-application is required. After review, if the USSOCOM is interested in receiving a full proposal/application, the Applicant or Offeror will be invited to submit a full proposal or full application. Specific submission information and additional administrative requirements can be found in the document titled "General Submission Instructions" available in Grants.gov along with this BAA.
Pre-proposal: Required. All pre-applications for both extramural and intramural organizations must be submitted through eBRAP (https://eBRAP.org/).
Awards: Total Funding Available: $4,500,000
Proposal Deadline: 31 July, 2023, 11:59 p.m. Eastern Time
Contact Information: Questions related to BAA content or submission requirements as well as questions related to the submission of the pre-proposal/pre-application through eBRAP should be directed to the EBRAP Help Desk, which is available Monday through Friday from 8:00 a.m. to 5:00 p.m. Eastern Time. Response times may vary depending upon the volume of inquiries. Phone: 301-682-5507 Email: help@eBRAP.org

---

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.

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 .

EPA

Grant Program: Practical Methods to Analyze and Treat Emerging Contaminants (PFAS) in Solid Waste, Landfills, Wastewater/Leachates, Soils, and Groundwater to Protect Human Health and the Environment
Agency: Environmental Protection Agency EPA-G2018-STAR-B1
EPA-G2018-STAR-B1, Practical Methods to Analyze and Treat Emerging Contaminants (PFAS) in Solid Waste, Landfills, Wastewater/Leachates, Soils, and Groundwater to Protect Human Health and the Environment
EPA-G2018-STAR-B2, Early Career: Practical Methods to Analyze and Treat Emerging Contaminants (PFAS) in Solid Waste, Landfills, Wastewater/Leachates, Soils, and Groundwater to Protect Human Health and the Environment
Website: https://www.epa.gov/research-grants/practical-methods-analyze-and-treat-emerging-contaminants-pfas-solid-waste-landfills#Award
Brief Description: The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications proposing research that will lead to: (1) better understanding and characterization of the types and quantities of current and historical per- and poly-fluoroalkyl substances (PFAS) and PFAS-containing waste associated with waste disposal (e.g., landfills), as well as media containing PFAS released from these activities (e.g., PFAS in leachate collected by landfills or PFAS leaching to subsurface soils and groundwater); (2) increased knowledge of the fate, transport, potential for degradation or other changes to PFAS, and their mobility during materials management (e.g., under different landfill conditions such as pH, temperature, moisture content) that facilitate or retard such transformation or movement; and (3) new or improved methods that are more effective, efficient (in cost, energy, etc.), and practical in controlling, treating, destroying, or removing PFAS in waste and wastewater, landfill leachates, biosolids, or environmental media. The main goal is to promote innovation in evaluating and managing PFAS in solid waste, landfills, and environmental media that will lead to improved decision making, management practices, and technical methods to minimize the risks to both humans and ecosystems.

This solicitation provides the opportunity for the submission of applications for projects that may involve human subjects research. Human subjects research supported by the EPA is governed by EPA Regulation 40 CFR Part 26 (Protection of Human Subjects). This includes the Common Rule at subpart A and prohibitions and additional protections for pregnant women and fetuses, nursing women, and children at subparts B, C, and D. Research meeting the regulatory definition of intentional exposure research found in subpart B is prohibited by that subpart in pregnant women, nursing women, and children. Research meeting the regulatory definition of observational research found in subparts C and D is subject to the additional protections found in those subparts for pregnant women and fetuses (subpart C) and children (subpart D). All applications must include a Human Subjects Research Statement (HSRS, as described in Section IV.C.5.c of this solicitation), and if the project involves human subjects research, it will be subject to an additional level of review prior to funding decisions being made as described in Sections V.D and V.E of this solicitation.
Awards; Up to a total of $900,000 for a regular award and up to a total of $500,000 for an early career award; Available Funding: $6,000,000
Submission Deadline: Full Application Submission Deadline: October 2, 2018
Contact Information: Technical Contact: Intaek Hahn (hahn.intaek@epa.gov); phone: 202-564-4377 Eligibility Contact: Ron Josephson (josephson.ron@epa.gov); phone: 202-564-7823

Department of Energy

Grant Program: Advanced Solar Systems Integration Technologies Notice of Intent (NOI)
Agency: Department of Energy DE-FOA-0001986
Website: https://eere-exchange.energy.gov/Default.aspx#FoaId2bbe24fe-f075-4d1b-8ab7-0df723807696
Brief Description: The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Solar Energy Technology Office, a Funding Opportunity Announcement (FOA) entitled "Advanced Solar Systems Integration Technologies". This FOA supports the mission of the Solar Energy Technologies Office (SETO) which is to support early-stage research and development to improve the performance and flexibility of solar technologies that contribute to a reliable and resilient U.S. electric grid. The office invests in innovative research efforts that securely integrate more solar energy into the grid, enhance the use, storage and dispatch of solar energy, and lower solar electricity costs. DOE is committed to improving the affordability of energy technologies and strengthening the Energy Sector's capability to withstand cyber and physical threats, including natural disasters. Improving the strategic location and situational awareness of solar systems can help ensure continuity of service in the face of widespread and coordinated threats. Developing innovative approaches to accelerate the transfer of solar system solutions that will improve Energy Sector resilience is also a priority.
Awards; This is a Notice of Intent
Submission Deadline: October 1, 2018
Contact Information: Clay L. Pfrangle seto.foa@ee.doe.gov

Grant Program: Machine Learning for Geothermal Energy
Agency: Department of Energy DE-FOA-0001956
Website: https://eere-exchange.energy.gov/
Brief Description: The U.S. Department of Energy's Geothermal Technology Office (GTO) Machine Learning for Geothermal Energy funding opportunity announcement (FOA) supports projects that will develop new analytical tools for finding and developing geothermal resources and establish the practice of machine learning in geothermal operations. The rapidly advancing field of Machine Learning (ML) offers substantial opportunities for technology advancement and cost reduction throughout the geothermal project lifecycle, from resource exploration to power plant operations. Under this funding opportunity, GTO is interested in two topic areas:
Topic 1: Machine Learning for Geothermal Exploration - GTO seeks projects that advance geothermal exploration through the application of machine learning techniques to geological, geophysical, geochemical, borehole, and other relevant datasets. Of particular interest to GTO are projects that will identify data acquisition targets and build community datasets for future work.
Topic 2: Advanced Analytics for Efficiency and Automation in Geothermal Operations - GTO seeks projects that apply advanced analytics to power plant and other operator datasets, with the goal of improving operations and resource management.
For questions and answers pertaining to this FOA, please reference the DE-FOA-0001956 Machine Learning FAQ Log in FOA Documents.
Awards; Up to $700,000; Available Funding: $3,600,000
Submission Deadline: Concept Paper Submission Deadline: 8/23/2018 5:00 PM ET
- Full Application Submission Deadline: 11/1/2018 5:00 PM ET

Contact Information: EERE-ExchangeSupport@hq.doe.gov For Exchange related support and issues.
- machinelearninggeo@ee.doe.gov For questions regarding the FOA

NASA

Grant Program: ROSES 2018: Cassini Data Analysis Program: PDS Cassini Data Release 54
Agency: NASA NNH18ZDA001N-CDAPR54
Website: https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7BE10A322F-0907-1754-8893-15F97479CD52%7D&path=open&method=init
Brief Description: This National Aeronautics and Space Administration (NASA) Research Announcement (NRA), Research Opportunities in Space and Earth Sciences (ROSES) – 2018, solicits basic and applied research in support of NASA's Science Mission Directorate (SMD). ROSES is an omnibus NRA, with many individual program elements, each with its own due dates and topics. All together these cover the wide range of basic and applied supporting research and technology in space and Earth sciences supported by SMD. Awards will be made as grants, cooperative agreements, contracts, and inter- or intraagency transfers, depending on the nature of the work proposed, the proposing organization, and/or program requirements. The typical period of performance for an award is three years, but some programs may allow up to five years and others specify shorter periods. Organizations of every type, domestic and foreign, Government and private, for profit and not-for-profit, may submit proposals without restriction on teaming arrangements. Note that it is NASA policy that all research involving non-U.S. organizations will be conducted on the basis of no exchange of funds.
Awards: Various
Proposal Deadline: September 18, 2018
Contact: Max Bernstein Planetary Science Division Science Mission Directorate NASA Headquarters Washington, DC 20546-0001 Email: max.bernstein@nasa.gov

---

Grant Program: Use of the NASA Physical Sciences Informatics System - Appendix E
Agency: NASA NNH17ZTT001N-17PSI-E
Website: https://nspires.nasaprs.com/external/solicitations/summary!init.do?solId={2AF0A877-0C3F-8E34-5954-223EAAD4CBB4}&path=open
Brief Description: This National Aeronautics and Space Administration (NASA) Research Announcement (NRA) solicits ground-based research proposals using an open science approach to develop new analyses and generate new scientific insights by utilizing experimental data residing in NASA's Physical Sciences Informatics (PSI) system (https://psi.nasa.gov), an online database of completed physical science reduced-gravity flight experiments conducted on the International Space Station (ISS), on Space Shuttle flights, or on Free Flyers, and related ground-based studies. The goals of this NRA are to: a) promote investigations making use of currently available experimental data resulting in more scientists participating in reduced-gravity research; b) allow new areas of research and discovery to occur more quickly through open access; and c) accelerate the "research to product or publication" timeline through the rapid sharing of data. The PSI system allows researchers to data mine information generated by experiments conducted as part of NASA's Physical Sciences Research Program in support of NASA's Space Life and Physical Sciences Research and Applications (SLPSRA) Division. In this manner PSI meets the requirements of the nation's Open Data Policy, which states that "Government information shall be managed as an asset throughout its life cycle to promote interoperability and openness, and, wherever possible and legally permissible, to ensure that data are released to the public in ways that make the data easy to find, accessible, and usable." (Executive Order May 9, 2013, "Making Open and Machine Readable the New Default for Government Information"). In accordance with this policy, all awardees from this NRA must upload data, new analytical or numerical models, tools, and software produced from the funded research into the PSI system. This solicitation is open to researchers from all categories of U.S. and non-U.S. organizations, including educational institutions, industry,

nonprofit organizations, NASA Centers, and other U.S. Government agencies. This NRA is soliciting proposals from two types of investigators: 1) established researchers from all categories of U.S. and non-U.S. organizations; 2) graduate students (with advisors) from accredited U.S. postsecondary institutions and programs. The proposals from graduate students must be submitted by their advisor.
Awards: Various
Notice of Intent: Not Required
Proposal Deadline: December 14, 2018
Contact: Dr. Francis Chiaramonte, Program Scientist for Physical Sciences
NASA Headquarters
E-mail: francis.p.chiaramonte@nasa.gov
Phone: 202-358-0693

National Endowment of Humanities

Grant Program: Humanities Connections Implementation Grants
Agency: National Endowment of Humanities
Website: https://www.neh.gov/grants/education/humanities-connections-implementation-grants
Brief Description: The Humanities Connections program seeks to expand the role of the humanities in undergraduate education at two- and four-year institutions. Awards will support innovative curricular approaches that foster productive partnerships among humanities faculty and their counterparts in the social and natural sciences and in pre-service or professional programs (such as business, engineering, health sciences, law, computer science, and other technology-driven fields), in order to encourage and develop new integrative learning opportunities for students.
Competitive applications will demonstrate

- that the proposed curricular projects address significant and compelling topics or issues in undergraduate education at the applicant institution(s);
- that these projects develop the intellectual skills and habits of mind cultivated by the humanities; and
- that faculty and students will benefit from meaningful collaborations in teaching and learning across disciplines as a result of the project.

Humanities Connections projects have four core features:

1. integration of the subject matter, perspectives, and pedagogical approaches of two or more disciplines (with a minimum of one in and one outside of the humanities);
2. collaboration between faculty from two or more separate departments or schools at one or more institutions;
3. experiential learning as an intrinsic part of the curricular plan; and
4. long-term institutional support for the proposed curriculum innovation(s).

Award: Up to $100,000
Proposal Deadline: October 17, 2018
Contact: Contact the staff of NEH's Division of Education Programs at 202-606-8337 or humanitiesconnections@neh.gov.

Michael J. Fox Foundation

Grant Program: Research and Open Innovation
Agency: Michael J. Fox Foundation
Website: https://www.michaeljfox.org/research/apply-for-grant.html

Brief Description: The Michael J. Fox Foundation works tirelessly to accelerate promising research toward breakthroughs for Parkinson's patients. While our strong emphasis is on funding translational and clinical research, we also support high-risk/high-reward discovery work. Learn more about our priorities on our Research Strategy page.
In addition to funding, awardees benefit from working with our internal research staff and broad network of scientific and industry advisors.
Award: Various
Funding Webinar: September 6, 2018
Pre-Proposal Deadline: September 26, 2018
University Nomination Process and Contact: If interested, please send an email to Eric Blitz (eric.blitz@njit.edu) and Atam Dhawan (dhawan@njit.edu).

ACI Foundation

Grant Program: Concrete Research
Agency: ACI Foundation
Website: https://www.acifoundation.org/research
Brief Description: The ACI Foundation's Concrete Research Council (CRC) seeks to advance the concrete industry through the funding of concrete research projects that further the knowledge and sustainability of concrete materials, construction, and structures in coordination with ACI Committees where possible.
Awards: Up to $50,000 may be approved per project for direct costs;
Proposal Deadline: December 1, 2018
Contact: Please let Eric Blitz (eric.blitz@njit.edu) and Atam Dhawan (dhawan@njit.edu) know if you are interested in applying.

Samsung

Grant Program: The Global Research Outreach (GRO) Program
Agency: Samsung
Website: https://www.sra.samsung.com/partnerships/university/
Brief Description: Theme: EXPLAINABLE DEEP LEARNING MODELS - Sub Theme: Explainable Models in Multi-modal Applications The task of explaining Deep Learning (DL) models has gained a lot of interest from the research community in recent times. In this GRO, we propose studying explainability of DL models, specifically via two problems: (a) Explainable Multi-modal Visual Dialog: There are many scenarios in mobile phone or desktop usage where a user inspects an image (e.g., a picture shared on the phone or an image obtained while browsing the web) and asking questions about it (e.g., where was this picture taken) – this is the problem of Visual Question Answering (VQA). The user may also ask for explanations for the answers generated in VQA (e.g., why you think so) – this is the task of Explainable Question Answering (XQA). However, while using a conversational assistant like Samsung Bixby, the user may be involved in a multi-modal dialog with the assistant, using text input, speech, etc. Those additional user input may contain rich context information for the assistant to understand and digest. As the assistant interacts with the user in a conversation across multiple modalities, the user may ask for explanations at different stages -- we call this the problem of Explainable Multi-modal Visual Dialog. (b) Explainable Recommendations: The Bixby assistant often makes shopping suggestions or other purchase recommendations to the user (e.g., based on an image that is taken from the camera album, based on a spoken purchase request made by the user, etc.). One of the research goals in such a recommendation

system could be explaining the underlying reason of the recommendations made during immersive interactive experiences (e.g., when shopping for items online using Bixby vision, using the point-and-shoot camera).
Theme: Beyond 5G Communication Systems - Sub Theme: Components for Terahertz Communication Systems Terahertz (THz) frequency band, 0.1 to 10 THz, offers vast spectrum resources to support >100Gbps for beyond 5G communication systems. FCC is currently considering to open the 95 - 475 GHz range for commercial use. Key component challenges for THz communication are low noise/high gain amplification, high linearity transmit power generation, low noise oscillators, and THz frequency conversion. Short wavelengths (3mm @ 100GHz) THz present challenges in conventional antenna element fabrication, while on-chip antennas traditionally exhibit reduced efficiency. Additional challenges arise from increased path loss and the resulting increase in antennas required for sufficient link margin. The latter offers opportunities in spatial spectrum reuse by taking advantage of the resulting pencil-beam transmissions.
Awards: Financial sponsorship for one year, in amounts up to $120,000
Contact: Please let Eric Blitz (eric.blitz@njit.edu) and Atam Dhawan (dhawan@njit.edu) know if you are interested in applying.

Simons Foundation

Grant Program: Simons Investigator program in the Mathematical Modeling of Living Systems (MMLS)
Simons Foundation Fellowships in Math and Theoretical Physics
Agency: Simons Foundation
Website: https://www.simonsfoundation.org/mathematics-physical-sciences/simons-investigators/simons-investigator-program-nominations/
https://www.simonsfoundation.org/grant/simons-fellows-in-theoretical-physics/?tab=rfa -- Simons Fellows in Theoretical Physics.
https://www.simonsfoundation.org/grant/simons-fellows-in-mathematics/?tab=rfa --- Simons Fellows in Mathematics
Brief Description: The Simons Foundation invites nominations for Simons Investigators in the Mathematical Modeling of Living Systems (MMLS), a joint program of the Mathematics and Physical Sciences and Life Sciences divisions of the Simons Foundation. Investigators in MMLS are outstanding scientists, often with mathematics or theoretical physics backgrounds, now engaged in research based on mathematical modeling in the life sciences.

New approaches in mathematically based modeling are making increasingly important contributions to the life sciences. The MMLS program aims to support theoretical approaches making important contributions to the life sciences and, thus, to foster a scientific culture of theory-experiment collaborations similar to that prevailing in physics. To encourage researchers to pursue this endeavor, the MMLS program will provide a long-term, stable base of support, enabling a focus on model based approaches to important issues in the life sciences. A broad spectrum of research areas within the life sciences will be considered, ranging from cellular-level issues of organization, regulation, signaling and morphogenic dynamics to the properties of organisms and ecology, as well as neuroscience and evolution; however, preference will be given to areas in which modeling approaches are less established and, for this reason, bioinformatics- and genomics-related proposals fall outside the scope of the program. In all cases, preference will be given to work developing deep theoretical ideas relevant to experiments, suggesting new questions and new classes of experiments, introducing important, new concepts, and explaining data.

Theory must connect with experiment, and candidates should articulate their own views about the nature of this connection, rather than accepting conventional wisdom; theory is more than data analysis. The program explicitly does not support translational or specifically human disease– related research.
Eligibility: To be eligible to be nominated for an Investigator in MMLS award, a scientist must be engaged in research related to the MMLS program and must not previously have been a Simons Investigator. He/she must have a primary appointment as a faculty member (tenured or non-tenured) at an educational institution in the United States, Canada, the United Kingdom or Ireland, on a campus within these countries, and the primary department affiliation must have a Ph.D. program. At the time of the appointment start date, an Investigator should be in the early stages of an academic career and must be within ten years of the start of his/her first faculty position.
Award: A Simons Investigator in MMLS is appointed for a period of five years for up to $132,000 per year. Appointments will begin August 1, 2019. An Investigator will receive research support in the amount of $100,000 per year. An additional $10,000 per year will be provided to the Investigator's department. The Investigator's institution will receive an additional 20 percent per year in indirect costs.
Proposal Deadline: The deadline to submit nominations is October 31, 2018, at 11:59:59 p.m. EST.
University Nomination Process and Contact: If interested, please send an email to Eric Blitz (eric.blitz@njit.edu) and Atam Dhawan (dhawan@njit.edu) and copy to college dean to discuss the nomination before August 1, 2018.

Grant Program: Simons Foundation Fellowships in Math and Theoretical Physics
Agency: Simons Foundation
Website:
https://www.simonsfoundation.org/grant/simons-fellows-in-theoretical-physics/?tab=rfa -- Simons Fellows in Theoretical Physics.
https://www.simonsfoundation.org/grant/simons-fellows-in-mathematics/?tab=rfa --- Simons Fellows in Mathematics
Brief Description: The Simons Foundation's Mathematics and Physical Sciences (MPS) division invites applications for the Simons Fellows in Theoretical Physics program, which is intended to make sabbatical leaves more productive by extending them to a full academic year. The MPS division's scientific advisory board will advise the foundation on the selection of awardees. Awards will be based on the applicant's scientific accomplishments in the five-year period preceding the application and on the potential scientific impact of the work to be done during the leave period.
Eligibility Requirements: A Simons Fellow in Theoretical Physics must have a teaching or administrative tenured position at the same U.S. or Canadian college or university within the physics or related department at the time of application, throughout the course of the sabbatical and in the term following the leave. This must be the applicant's primary position. In addition, a Fellow must have an active current research program. Fellows cannot simultaneously hold a Simons Investigator award.
Award: A Simons Fellowship in Theoretical Physics/Mathematics provides salary replacement for up to 50 percent (up to a maximum of $100,000) of the Fellow's current academic-year salary, whether normally paid over 9 or 12 months, and up to $25,000 for expenses related to the leave. The Fellow's home institution will receive *an additional* 20 percent overhead on allowable expenses. Please note that the foundation's indirect cost policy allows up to 20 percent of direct cost expenditures. Any unspent funds at the end of the award must be returned to the Simons Foundation.
Proposal Deadline: September 27, 2018
University Nomination Process and Contact: If interested, please send an email to Eric Blitz (eric.blitz@njit.edu) and Atam Dhawan (dhawan@njit.edu) and copy to college dean to discuss the nomination before August 1, 2018.

Whitehall Foundation

Grant Program: Research Grants in Neurology
Agency: Whitehall Foundation
Website: http://www.whitehall.org/grants/
Brief Description: Research grants are available to established scientists of all ages working at accredited institutions in the United States. Applications will be judged on the scientific merit and the innovative aspects of the proposal as well as on the competence of the applicant. Research grants of up to three years will be provided. A renewal grant with a maximum of two years is possible, but it will be awarded on a competitive basis. Research grants will not be awarded to investigators who have already received, or expect to receive, substantial support from other sources, even if it is for an unrelated purpose.
Award: Research grants normally range from $30,000 to $75,000 per year.
Proposal Deadline: October 1, 2018
University Nomination Process and Contact: If interested, please send an email to Eric Blitz (eric.blitz@njit.edu) and Atam Dhawan (dhawan@njit.edu).

BrightFocus Foundation

Grant Program: Alzheimer's Disease Research Program; Macular Degeneration Research Program; National Glaucoma Research Program
Agency: BrightFocus Foundation
Website: https://www.brightfocus.org/grants/types-grants
Brief Description: Alzheimer's Disease Research Program
The ADR program offers two types of awards:
Standard Awards
The standard award provides significant funding for researchers who have already generated some amount of preliminary data, but are often required to demonstrate additional, significant progress before they can apply to governmental or industrial funding agencies.

- Award Amount: $300,000
- Duration: 3 years

Postdoctoral Fellowship Awards
Postdoctoral fellowship awards are intended for young researchers in their final stages of mentored training. These awards fund projects in an established laboratory that will serve as the basis for the applicant's own independent research career.

- Award Amount: $200,000
- Duration: 2 years

Macular Degeneration Research Program
Standard Awards
The standard award provides significant funding for researchers who have already generated some amount of preliminary data, but are often required to demonstrate additional, significant progress before they can apply to governmental or industrial funding agencies.

- Maximum award value: $200,000
- Maximum duration: 2 years

National Glaucoma Research Program
Standard Awards

The standard award provides significant funding for researchers who have already generated some amount of preliminary data, but are often required to demonstrate additional, significant progress before they can apply to governmental or industrial funding agencies.

- Award Amount: $200,000
- Maximum Duration: 2 years

Proposal Deadline: September 5, 2018
University Nomination Process and Contact: If interested, please send an email to Eric Blitz (eric.blitz@njit.edu) and Atam Dhawan (dhawan@njit.edu).

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/. The 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

---

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 has started 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.
