

NJIT Research Newsletter

Issue: ORN-2017-35

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/>.

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Special Announcements NJIT Research Events

Event: President's Forum and 2017 NJIT Research Centers and Laboratories Showcase

When: November 16, 2017; 10.00 AM – 2.30 PM

Where: Ballroom A and B., Campus Center

Brief Description: The President's Forum and 2017 NJIT Research Centers and Laboratories Showcase will be held on November 16, 2017 to feature ongoing exciting research at NJIT. The showcase presents NJIT research enterprise to promote core and interdisciplinary collaborative research. This year, the showcase will feature 70 NJIT research institutes, centers and specialized laboratories. Dr. Steven Scachter, MD, Chief Academic Officer and Program Leader of NeuroTechnology at the Consortia for Improving Medicine with Innovation & Technology (CIMIT) and Professor of Neurology at Harvard Medical School will be the Keynote Speaker.

Keynote Speaker Bio: Dr. Steven Schachter is Chief Academic Officer and Program Leader of NeuroTechnology at the Consortia for Improving Medicine with Innovation & Technology (CIMIT) and a Professor of Neurology at Harvard Medical School (HMS). Dr. Schachter attended medical school at Case Western Reserve University in Cleveland, Ohio. He completed an internship in Chapel Hill, North Carolina, a neurological residency at the Harvard-Longwood Neurological Training Program, and an epilepsy fellowship at Beth Israel Hospital in Boston, Massachusetts. Dr. Schachter is Past President of the American Epilepsy Society. He is also past Chair of the Professional Advisory Board of the Epilepsy Foundation and serves on their Board of Directors. He has directed over 70 research projects involving antiepileptic therapies, and published over 200 articles and chapters. He compiled the 6-volume Brainstorms series, which has been distributed to over 150,000 patients and families worldwide in several languages, and edited or written 26 other books on epilepsy and behavioral neurology. Dr. Schachter is the founding editor and editor-in-chief of the medical journals *Epilepsy & Behavior* and *Epilepsy & Behavior Case Reports*.

This President's forum is a featured event in the Albert Dorman Honors College Colloquium Series and is made possible in part by the generous support of the DeCaprio Family.

Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

NSF: Condensed Matter and Materials Theory (CMMT); Leading Engineering for America's Prosperity, Health, and Infrastructure (LEAP HI); Spectrum Efficiency, Energy Efficiency, and Security (SpecEES); Enabling Spectrum for AI; Partnerships for Research and Education in Materials (PREM); Scalable Parallelism in the Extreme (SPX); Cyberlearning for Work at the Human-Technology Frontier; NSF/Intel Partnership on Foundational Microarchitecture Research

NIH: BRAIN Initiative: Proof of Concept Development of Early Stage Next Generation Human Brain Imaging (R01); BRAIN Initiative: Targeted BRAIN Circuits Projects- TargetedBCP (R01); BRAIN Initiative: Exploratory Research Opportunities Using Invasive Neural Recording and Stimulating Technologies in the Human Brain (U01); National Institute of General Medical Sciences Ruth L. Kirschstein National Research Service Award (NRSA) Predoctoral Institutional Research Training Grant (T32); NIH Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience (D-SPAN) Award (F99/K00); NCI Outstanding Investigator Award (R35); BRAIN Initiative: Exploratory Team-Research BRAIN Circuit Programs - eTeamBCP (U01); Collaborative Program Grant for Multidisciplinary Teams (RM1)

Department of Defense/US Army/DARPA/ONR: DoD Medical Simulation and Information Sciences, Toward A Next-Generation Trauma Care Capability: Foundational Research for Autonomous, Unmanned, and Robotics Development of Medical Technologies (FORWARD) Award; Broad Agency Announcement for Extramural Medical Research; DoD Hearing Restoration Research Program Focused Research Award

Department of Energy: Generation 3 Concentrating Solar Power Systems; RFI: Solar Energy Technology Analysis & Data Needs; Advanced Power Electronics Design for Solar Applications; High-Energy-Density Laboratory Plasma Science

NASA: Use of the NASA Physical Sciences Informatics System

National Endowment of Humanities: Collaborative Research Grants; PhD Planning Grants; Summer Stipends; Research and Development Grants

The Lemelson Foundation: Lemelson-MIT Prize

Henry Luce Foundation: HERS-CBL Scholarships

Streamlyne Update: New How-to-do Videos

Recent Research Grant and Contract Awards

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

PI: Andrew Gerrard (PI) and Nathaniel Frissell (Co-PI)

Department: Center for Solar Terrestrial Research

Grant/Contract Project Title: CEDAR - Effects of the 2017 Total Solar Eclipse on the Earth's Ionosphere

Funding Agency: NSF

Duration: 09/25/17-09/24/18

PI: Colette Santasieri (PI)
Department: T&BD, NJIT
Grant/Contract Project Title: Technical Assistance to Brownfields Communities: USEPA Regions 1,3,&4
Funding Agency: US EPA
Duration: 07/01/16-06/30/21

PI: Judith Sheft (PI) and Michael Ehrlich (Co-PI)
Department: T&BD, NJIT and MTSM
Grant/Contract Project Title: HealthIT Connections - Year 4
Funding Agency: JP Morgan Chase (Subcontract NJII)
Duration: 09/01/17-08/31/18

PI: Donald Sebastian (PI)
Department: T&BD, NJIT
Grant/Contract Project Title: Transforming Clinical Practices Initiative-PTN Year 3
Funding Agency: NJ Dept of Health & Human Services (Subcontract NJII)
Duration: 09/29/17-09/28/18

In the News...

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

Senate Commerce Committee Approves Self-Driving Car Bill: The [Washington Post](#) (10/4, Halsey) reports that on Wednesday, the Senate Commerce Committee approved legislation that “seeks to clarify the role played by the federal and state governments in the autonomous car future.” Like the House bill, the Senate bill “would allow Transportation Secretary Elaine Chao to exempt automakers from existing safety standards, eventually permitting the sale of 100,000 cars a year as the self-driving technology develops.” While the bill gives oversight responsibilities to Chao and the NHTSA, “safety advocates have been fearful that the absence of regulations would allow unfettered development of the vehicles.” The [Detroit News](#) (10/4, Laing) reports that the bill comes “against a backdrop of furious activity in the auto sector as automakers race to put cars that are capable of at least some hands-free driving on the road as quickly as they can.” Self-driving trucks were dropped from the Senate and House bills “after a high-profile campaign from labor unions to protect the jobs of professional drivers.” [Reuters](#) (10/4, Shepardson) reports the legislation is supported by companies such as GM, Alphabet, and Ford.

NASA To Extend Expandable Module’s ISS Mission: [Space News](#) (10/3, Subscription Publication) reports that NASA plans to extend the mission of an experimental expandable module on the ISS beyond its original two-year timeline. NASA said on Oct. 2 that it plans to issue Bigelow Aerospace a contract for three-to-five years of additional services for its Bigelow Expandable Activity Module (BEAM). BEAM was launched to the ISS in April 2016 and has served as an engineering testbed, although NASA is eyeing use as additional storage as well. NASA said that “BEAM continues to demonstrate positive performance in space and initial studies have shown that

it can be used long-term on the ISS to support the government's needs for on-orbit stowage and for technology demonstrations." The agency plans to store more than 100 Cargo Transfer bags, "a standard unit of cargo storage on the station," in the module, freeing up "about four payload racks" in other modules for research. NASA also wants to study the module's radiation and debris shielding effectiveness. NASA said that it may consider additional extensions at the conclusion of the contract.

Researchers Win Nobel Prize In Physics For Detecting Gravitational Waves: The [Washington Post](#) (10/3, Achenbach) reports Rainer Weiss, Barry C. Barish and Kip S. Thorne – members of the Laser Interferometer Gravitational-Wave Observatory scientific collaboration – "detected gravitational waves for the first time just two years ago, the echoes of a massive collision of two supermassive black holes." Their discovery won them "the 2017 Nobel Prize in physics Tuesday." The Post republishes a piece explaining the discovery that ran shortly after the detection was first announced. More on the website https://www.washingtonpost.com/news/speaking-of-science/wp/2017/10/03/nobel-winning-research-on-gravitational-waves-ligo-and-gravity-explained/?utm_term=.869b1d41dce1

Collaborative Robots Gaining Ground In Manufacturing: The [Chief Executive](#) (10/2, Guillot) reports that collaborative robots "are gaining ground as a valuable tool in the manufacturing industry. But manufacturers that want to make the most of these robots need to guide their system design and deployment with principles that support collaboration between man and machine." A recent study by ABI Research "found that 13% of manufacturing companies surveyed have collaborative robot systems in operation, while another 15% expect to have them operational within the next year." Dan Kara, Research Director of Robotics at ABI Research, "said that while the adoption of industrial robots has been limited by high costs and complex programming requirements, co-bots are easy to program, flexible and can work safely in close proximity of humans."

Defense Policy Bill: University representatives have identified provisions in each bill they think will be good for research. The Senate measure includes "special acquisition authority" for DOD to access universities' technical expertise and use of "other transactions authority and experimental procurement authority" to reach research agreements with industry and academia. Sections of interest in the House bill include: \$15 million to establish "a Hacking for Defense Program, which seeks to build a network of innovators and entrepreneurs to develop and commercialize DOD technology"; a pilot program with DOD labs and DOE labs to facilitate tech transfer and commercialization with private entities; a provision that allows non-profit research institutions to enter into prototype projects without cost sharing requirements; and a requirement that DOD identify STEM jobs needed to support future mission work, and determine a STEM jobs shortfall. Full report is posted on the website <https://www.congress.gov/bill/115th-congress/senate-bill/1519>

Research in Material Science: The Subcommittees on Energy and Research and Technology of the House Science, Space, and Technology Committee recently held a joint hearing to review federally funded research in materials science. Researchers in this field analyze existing materials, studying their chemical, physical, atomic, and magnetic make up in order to develop new materials with preferred properties. New materials research has facilitated innovations in areas such as biomedical engineering and at the Department of Defense. Investing in science, technology, engineering, and mathematics (STEM) education and the infrastructure that is needed for this

advanced research is imperative. One witness at the hearing, Dr. Fred Higgs, a professor of Mechanical Engineering from Rice University and expert in tribology, expressed three main issues in his testimony. He stated that new materials can improve the safety and environmental impact of energy production technologies and that material advancements can provide the foundation for new technologies in medicine, transportation, manufacturing and computing. Additionally he promoted the merits of science prize competitions, university-federal lab/agency partnerships, and university-company partnerships, in speeding the development of advanced materials. The hearing testimony and archived video is available:

<https://science.house.gov/legislation/hearings/joint-subcommittee-energy-and-subcommittee-research-and-technology-hearing>

NSF: Important Notice No. 140: Training in Responsible Conduct of Research – A Reminder of the NSF Requirement

Important Notice to Presidents of Universities and Colleges and Heads of Other National Science Foundation Grantee Organizations

The National Science Foundation (NSF) requires that each institution submitting a proposal certify that it has a plan to provide appropriate training and oversight in the ethical conduct of research to all undergraduates, graduate students, and postdoctoral researchers who will be supported by NSF to conduct research. The institutions are responsible for verifying that the training has been received. This is in accordance with the 2007 [America COMPETES Act](#).ⁱ

The NSF recognizes the importance of research integrity and the responsible and ethical conduct of research. The scientific research enterprise is critical to our nation, and its progress depends on maintaining integrity in the process of conducting research. A recent report by the National Academies of Sciences, Engineering, and Medicine, called [Fostering Integrity in Research](#), notes that the core values and guiding norms underpinning research integrity are crucial to assure that new generations of researchers are able to meet the challenges of a dynamic research environment.ⁱⁱ

NSF's Responsible Conduct of Research (RCR) requirement applies to the breadth of research disciplines the Foundation funds and the different educational levels of the students and post-doctoral researchers the agency supports. The training should be effective and appropriately tailored to the specific needs and circumstances at each university. Accordingly, it is the responsibility of each institution to determine both the focus and the delivery method for appropriate training.

Webinar and Events

Event: IEEE Webinar: Fluid-Structure Interaction Analysis of a Piezoelectric Fan

Sponsor: IEEE

When: October 12, 2017 from 2:00 PM to 4.00 PM

Website:

<https://event.on24.com/eventRegistration/EventLobbyServlet?target=reg20.jsp&partnerref=banner&eventid=1501471&sessionid=1&key=3FB8150AEB2737E5D195027111226A18®Tag=&sourcepage=register&et rid=2035965180&et mid=83543355>

Brief Description: If you want to learn about modeling piezoelectric fans, then tune into this webinar with Akshat Agarwal from the Efficient Energy Transfer group at Nokia Bell Labs. As a technology promising to fill the gap between natural and forced convection heat sinks, piezoelectric fans create

airflow through an oscillating motion induced by an applied AC voltage. In this webinar, we will discuss the use of the COMSOL Multiphysics® software to investigate the 3D flow field created by an oscillating cantilever beam immersed in ambient air. The application of such technology includes electronics cooling as well as the study of the wings of a flapping bird or UAV. The setup and techniques used to simplify the mathematical model and postprocessing methods will be discussed.

Register at: above URL

Event: IEEE Webinar: Modeling of Electromechanical Sensors & Systems

When: Available on Demand

Website: <https://spectrum.ieee.org/webinar/modeling-of-electromechanical-sensors-systems>

About the Webinar: If you are interested in modeling electromechanical devices, including piezoelectric materials, then tune into this webinar to learn how PZFlex helps Fortune100 companies optimize device designs. Understanding the complex, highly coupled behavior of electromechanical sensors (e.g. piezoelectric transducer arrays, SAWs, and electrostatic MUTs) and their performance in a system as a whole is critical in the development of innovative technologies (e.g. Ultrasonic Fingerprint Sensors, Medical Imaging, and RF Filters). Due to the anisotropic materials, complex coupling effects, and multi-physics (piezoelectric, electrostatic, structural, thermal, and acoustic) involved in a single device design numerical simulation using finite element analysis (FEA) is often the only way to fully understand device and system behavior and inform the design process. Powerful numerical simulation is an innovation enabler that provides engineers a means of predicting and understanding effects of design changes, environmental influences, and manufacturing tolerances on device and system performance. By facilitating rapid design iteration and assessment, effective simulation tools can explore large design spaces that would be impossible to do via physical prototypes.

In this webinar, PZFlex will explore and analyze some of the common pain-points in complex device design and present pragmatic examples demonstrating how rapid FEA simulation can help engineers overcome challenges while minimizing time, risk and cost.

Presenters:

Dr Gerry Harvey, VP of Engineering, PZFlex

Dr Andrew Tweedie, Director, UK of Operations, PZFlex

Grant Opportunities

National Science Foundation

Grant Program: Condensed Matter and Materials Theory (CMMT)

Agency: National Science Foundation NSF 18-500

RFP Website: <https://www.nsf.gov/pubs/2018/nsf18500/nsf18500.htm>

Brief Description: CMMT supports theoretical and computational materials research in the topical areas represented in DMR's Topical Materials Research Programs (these are also variously known as Individual Investigator Award (IIA) Programs, or Core Programs, or Disciplinary Programs), which include: Condensed Matter Physics (CMP), Biomaterials (BMAT), Ceramics (CER), Electronic and Photonic Materials (EPM), Metals and Metallic Nanostructures (MMN), Polymers (POL), and Solid State and Materials Chemistry (SSMC). The CMMT program supports fundamental research that advances conceptual understanding of hard and soft materials, and materials-related phenomena; the development of associated analytical, computational, and data-centric techniques; and predictive materials-specific theory, simulation, and modeling for materials research. First-

principles electronic structure, quantum many-body and field theories, statistical mechanics, classical and quantum Monte Carlo, and molecular dynamics, are among the methods used in the broad spectrum of research supported in CMMT. Research may encompass the advance of new paradigms in materials research, including emerging data-centric approaches utilizing data-analytics or machine learning. Computational efforts span from the level of workstations to advanced and high-performance scientific computing. Emphasis is on approaches that begin at the smallest appropriate length scale, such as electronic, atomic, molecular, nano-, micro-, and mesoscale, required to yield fundamental insight into material properties, processes, and behavior, to predict new materials and states of matter, and to reveal new materials phenomena. Approaches that span multiple scales of length and time may be required to advance fundamental understanding of materials properties and phenomena, particularly for polymeric materials and soft matter. Areas of recent interest include, but are not limited to: strongly correlated electron systems; active matter; topological phases; low-dimensional materials and systems; quantum and classical nonequilibrium phenomena, the latter including pattern formation, materials growth, microstructure evolution, fracture, and the jamming transition; gels; glasses; disordered materials, hard and soft; defects; high-temperature superconductivity; nanostructured materials and mesoscale phenomena; creation and manipulation of coherent quantum states; polymeric materials and soft condensed matter, biologically inspired materials, and research at the interface with biology.

Awards: Standard Grant; **Anticipated Funding Amount:** \$15,000,000

Letter of Intent: Not Required

Proposal Submission Due Date: Proposals Accepted Anytime

Contacts: Daryl W. Hess, telephone: (703) 292-4942, email: dhess@nsf.gov

- Alexios Klironomos, telephone: (703) 292-4920, email: aklirono@nsf.gov

Grant Program: Leading Engineering for America's Prosperity, Health, and Infrastructure (LEAP HI)

Agency: National Science Foundation NSF 17-602

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17602/nsf17602.htm>

Brief Description: The LEAP HI program challenges the engineering research community to take a leadership role in addressing demanding, urgent, and consequential challenges for advancing America's prosperity, health and infrastructure. LEAP HI proposals confront engineering problems that are too complex to yield to the efforts of a single investigator — problems that require sustained and coordinated effort from interdisciplinary research teams, with goals that are not achievable through a series of smaller, short-term projects. LEAP HI projects perform fundamental research that may lead to disruptive technologies and methods, lay the foundation for new and strengthened industries, enable notable improvements in quality of life, or re-imagine and revitalize the built environment.

- LEAP HI supports fundamental research projects involving collaborating investigators, of duration up to five years, with total budget between \$1 million and \$2 million.
- LEAP HI proposals must articulate a fundamental research problem with compelling intellectual challenge and significant societal impact, particularly on economic competitiveness, quality of life, public health, or essential infrastructure. One or more CMMI core topics must lie at the heart of the proposal, and integration of disciplinary expertise not typically engaged in CMMI-funded projects is encouraged.
- LEAP HI proposals must highlight engineering research in a leadership role.

- LEAP HI proposals must demonstrate the need for a sustained research effort by an integrated, interdisciplinary team, and should include a research integration plan and timeline for research activities, with convincing mechanisms for frequent and effective communication.

Awards: Standard Grant; **Anticipated Funding Amount:** \$7,500,000

Letter of Intent: Submission of Letters of Intent is required. Please see the full text of this solicitation for further information. December 15, 2017

Proposal Submission Due Date: February 05, 2018 - February 20, 2018

Contacts: Bruce Kramer, telephone: (703) 292-5348, email: bkramer@nsf.gov

Grant Program: Spectrum Efficiency, Energy Efficiency, and Security (SpecEES): Enabling Spectrum for AI

Agency: National Science Foundation NSF 17-601

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17601/nsf17601.htm>

Brief Description: The National Science Foundation's Directorates for Engineering (ENG) and Computer and Information Science and Engineering (CISE) are coordinating efforts to identify bold new concepts to significantly improve the efficiency of radio spectrum utilization while addressing new challenges in energy efficiency and security, thus enabling spectrum access for all users and devices, and allowing traditionally underserved Americans to benefit from wireless-enabled goods and services. The SpecEES program solicitation (pronounced "SpecEase") seeks to fund innovative collaborative research that transcends the traditional boundaries of existing programs.

Awards: Standard Grant; **Anticipated Funding Amount:** \$10,000,000

Letter of Intent: Not Required

Proposal Submission Due Date: January 18, 2018

Contacts: Jenshan Lin, ENG/ECCS, telephone: (703) 292-8339, email: jenlin@nsf.gov

- Thyagarajan Nandagopal, CISE/CNS, telephone: (703) 292-8950, email: tnandago@nsf.gov
 - Lawrence S. Goldberg, ENG/ECCS, telephone: (703) 292-8339, email: lgoldber@nsf.gov
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Grant Program: Partnerships for Research and Education in Materials (PREM)

Agency: National Science Foundation NSF 17-599

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17599/nsf17599.htm>

Brief Description: The DMR Partnerships for Research and Education in Materials Research (PREM) program aims to enable, build, and grow partnerships between minority-serving institutions and DMR-supported centers and/or facilities to increase recruitment, retention and degree attainment (which defines the PREM pathway) by members of those groups most underrepresented in materials research, and at the same time support excellent research and education endeavors that strengthen such partnerships.

Awards: Continuing Grant; **Anticipated Funding Amount:** \$3,000,000

Limit on Number of Proposals per Organization: 1per lead institution.

Internal Submission and Review: If you plan to submit a proposal, please send an extended summary with Intellectual merit and Broader Impact sections, list of key investigators and budget to the Office of Research at dhawan@njit.edu before November 15, 2017.

Letter of Intent: Not Required

Proposal Submission Due Date: January 29, 2018

Contacts: Eva Campo, 1065N, telephone: (703) 292-7010, email: ecampo@nsf.gov

Grant Program: Scalable Parallelism in the Extreme (SPX)**Agency: National Science Foundation NSF 17-600****RFP Website:** <https://www.nsf.gov/pubs/2017/nsf17600/nsf17600.htm>

Brief Description: Computing systems have undergone a fundamental transformation from the single-core processor-devices of the turn of the century to today's ubiquitous and networked devices with multicore/many-core processors along with warehouse-scale computing via the cloud. At the same time, semiconductor technology is facing fundamental physical limits and single-processor performance has plateaued. This means that the ability to achieve performance improvements through improved processor technologies alone has ended. In recognition of this obstacle, the recent [National Strategic Computing Initiative](#) (NSCI) encourages collaborative efforts to develop, “over the next 15 years, a viable path forward for future high-performance computing (HPC) systems even after the limits of current semiconductor technology are reached (the 'post-Moore's Law era').”

Exploiting parallelism is one of the most promising directions to meet these performance demands. While parallelism has already been studied extensively and is a reality in today's computing technology, the expected scale of future systems is unprecedented. At extreme scales, factors that have small impacts today can become highly significant. For example, even short serial program sections can prove destructive to performance. Heterogeneity of processing elements [Central Processing Units (CPUs), Graphics-Processing Units (GPUs), and accelerators] and their memory hierarchies pose significant management challenges. High system complexity may lead to unacceptable latencies and mean time between failures, even if built with highly reliable components. Furthermore, the interconnectedness of large-scale distributed architectures poses an enormous challenge of understanding and providing guarantees on performance behavior. These are just four of many issues arising in the new era of parallel computing that is upon us.

The Scalable Parallelism in the Extreme (SPX) program aims to support research addressing the challenges of increasing performance in this modern era of parallel computing. This will require a collaborative effort among researchers in multiple areas, from services and applications down to micro-architecture. SPX encompasses all five NSCI [Strategic Objectives](#), including supporting foundational research toward architecture and software approaches that drive performance improvements in the post-Moore's Law era; development and deployment of programmable, scalable, and reusable platforms in the national HPC and scientific cyberinfrastructure ecosystem; increased coherence of data analytic computing and modeling and simulation; and capable extreme-scale computing. Coordination with industrial efforts that pursue related goals are encouraged.

Awards: Standard Grant; **Anticipated Funding Amount:** \$10,000,000**Letter of Intent:** Not Required**Proposal Submission Due Date:** January 09, 2018**Contacts:** Tao Li, Program Director, CCF, telephone: (703) 292-8238, email: taoli@nsf.gov

- Anindya Banerjee, Program Director, CISE/CCF, telephone: (703) 292-7885, email: abanerje@nsf.gov
- Tracy Kimbrel, Program Director, CISE/CCF, telephone: (703) 292-8910, email: tkimbrel@nsf.gov

Grant Program: Cyberlearning for Work at the Human-Technology Frontier**Agency: National Science Foundation NSF 17-598****RFP Website:** <https://www.nsf.gov/pubs/2017/nsf17598/nsf17598.htm>

Brief Description: The purpose of the **Cyberlearning for Work at the Human-Technology Frontier** program is to fund exploratory and synergistic research in learning technologies to prepare learners to excel in work at the human-technology frontier. This program responds to the pressing societal need to educate and re-educate learners of all ages (students, teachers and workers) in science, technology, engineering, and mathematics (STEM) content areas to ultimately function in highly technological environments, including in collaboration with intelligent systems. Innovative technologies can reshape learning processes, which in turn can influence new technology design. Learning technology research in this program should be informed by the convergence of multiple disciplines: education and learning sciences, computer and information science and engineering, and cognitive, behavioral and social sciences. This program funds learning technology research in STEM and other foundational areas that enable STEM learning.

Awards: Standard Grant; **Anticipated Funding Amount:** \$15,000,000

Letter of Intent: Not Required

Proposal Submission Due Date: January 08, 2018

Contacts: Tatiana Korelsky, co-lead CISE, CISE/IIS, telephone: (703) 292-8930, email: tkorelsk@nsf.gov

- Amy L. Baylor, co-lead EHR, EHR/DRL, telephone: (703) 292-5126, email: abaylor@nsf.gov
- John Cherniavsky, Senior Advisor, EHR/DRL, telephone: (703)292-5136, email: jchernia@nsf.gov

Grant Program: NSF/Intel Partnership on Foundational Microarchitecture Research (FoMR)

Agency: National Science Foundation NSF 17-597

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17597/nsf17597.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 to continue the cadence promised by Moore’s Law.

Awards: Six awards; **Anticipated Funding Amount:** \$3,000,000

Letter of Intent: Not Required

Proposal Submission Due Date: January 12, 2018

Contacts: Tao Li, Program Director, CCF, telephone: (703) 292-8238, email: taoli@nsf.gov

- Yan Solihin, Program Director, CNS, telephone: (703) 292-7939, email: ysolihin@nsf.gov
- Matt Haycock, Center Executive Sponsor, Vice President, Intel Labs, telephone: (503) 712-2872, email: matthew.haycock@intel.com

National Institutes of Health

Grant Program: BRAIN Initiative: Proof of Concept Development of Early Stage Next Generation Human Brain Imaging (R01 Clinical Trials Not Allowed)

Agency: National Institutes of Health RFA-EB-17-003

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-EB-17-003.html>

Brief Description: The long-term objective of the overall BRAIN initiative is to accelerate technology development and the use of tools for acquiring fundamental insight about how the nervous system functions in health and disease. This FOA aims to support early stage development of entirely new and novel noninvasive human brain imaging technologies and methods that will lead to transformative advances in our understanding of the human brain.

The FOA solicits unusually bold and potentially transformative approaches and supports small-scale, proof-of-concept development of human brain imaging based on exceptionally innovative, original and/or unconventional concepts. The goal is to accelerate early stage development of promising and entirely new concepts that require some initial stage of development and testing before launching into full-scale tool development. Applications submitted in response to this FOA should focus on innovative approaches and proof-of-principle initial stage development for breakthrough, noninvasive imaging technology to measure human brain processes in ways that are currently unachievable via imaging technologies in live persons. The proposed concepts and approaches are expected to be high-risk, high-impact, and disruptive (c.f. C. Christensen “The Innovator's Dilemma”, 1997).

This FOA will support early stage development of novel interdisciplinary research and technology for noninvasive next generation human brain imaging, with the intention that the technologies be capable of being used practically and ethically in healthy humans at any point in the life span. To this end, this FOA will support interdisciplinary teams from diverse research domains to conduct research and development activities such as data exchange, prototype development projects, and small-scale studies in mammals or humans to generate preliminary results. The teams should be prepared, by the completion of the award period, to commence fully developing the next-generation brain imaging technology for use in healthy humans within the timeframe of the BRAIN Initiative (“BRAIN 2025: A Scientific Vision,” <http://braininitiative.nih.gov/>).

Achieving this goal will likely require leveraging the expertise of an interdisciplinary team. This FOA will provide the needed resources to support teams to meet the grand challenges of developing novel and transformative interdisciplinary approaches to human brain imaging. Academic - industrial partnerships are strongly encouraged, although not required.

Effort supported under this FOA should not be restricted to only new hardware development, but could address any of the steps along the chain of brain imaging data acquisition including hardware and probes. Advanced, adaptive sampling and analytic approaches for image acquisition and image processing that can scale from macro to micro-levels of the brain (in space and/or time) are encouraged. Creative efforts using both theory and experiment to bridge multiple scales in human neuroimaging are strongly encouraged.

Innovative, impactful next generation imaging tools span a wide array of approaches. These include hardware, software, and methods that have a potential to revolutionize the way noninvasive human neuroimaging is conducted today. This FOA solicits applications proposing early stage development of entirely new concepts for next generation human brain imaging, including but not limited to:

- New classes of noninvasive human neuroimaging

- Disruptive, new approaches that dramatically improve spatiotemporal resolution of current human neuroimaging
- Behaviorally active human neuroimaging that allows for movement in space/place during imaging in more natural environments while maintaining high resolution
- Innovative approaches for bridging multiple scales in human neuroimaging

Awards: Application budgets are limited to \$300,000 in direct costs in any project year.

Letter of Intent: November 20, 2017

Deadline: December 20, 2017 and December 11, 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. No late applications will be accepted for this Funding Opportunity Announcement.

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

Grant Program: BRAIN Initiative: Targeted BRAIN Circuits Projects- TargetedBCP (R01 - Clinical Trial Not Allowed)

Agency: National Institutes of Health RFA-NS-18-009

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-NS-18-009.html>

Brief Description: This FOA is one of a family of "Integrated Approaches" NIH BRAIN FOAs that range from small or exploratory, targeted brain circuits projects with specific research deliverables (R21, R01) to large, team-research projects with exploratory aims (U01) or with extensive and elaborated goals and a 5-10 year horizon of discovery (U19). In each case, the FOAs are guided by BRAIN 2025 A Scientific Vision: "The Application of Integrated Technologies to Study Fundamental Questions in Neuroscience: Numerous long-standing problems in brain science will benefit dramatically from the integrated experimental approach made possible by the BRAIN Initiative."

Potential applicants are encouraged to visit the NIH BRAIN Initiative website for information and guidance <https://www.braininitiative.nih.gov/funding/initiatives.htm>.

All FOAs in this family of initiatives emphasize the use of cutting-edge methods of activation and recording to understand the behavior of circuits at cellular and sub-second levels of spatial and temporal resolution; that is, at the level of the functional units of circuits. All FOAs welcome basic research using human or non-human animal subjects. However, there is a specific FOA for neurobiology research involving research opportunities employing invasive neural recording (Research Opportunities Using Invasive Neural Recording and Stimulating Technologies in the Human Brain). This family of initiatives also seeks advances in theory and/or analytics, and has a requirement of a data standards and management plan, as well as a data dissemination plan to facilitate use of the results by the research community.

Targeted Brain Circuits Projects

The primary goal of this FOA is to solicit research projects using innovative, methodologically-integrated approaches to understand how circuit activity gives rise to mental experience and behavior. The activity of neural circuits is the substrate of cognitive processes such as perception, attention, reasoning, intention, decision-making, and emotion. These internal activities are translated into patterns of activation that support simple motor behaviors, as well as more complex behaviors such as navigation and communication. Dysfunction of these large systems of neurons due to disease, injury, or developmental anomaly is the basis of neural and mental disorders. A mission of the NIH BRAIN Initiative is to understand how large scale neural systems contribute to cognitive and neurological function in both health and disease.

Targeted Brain Circuit Project R01 awards will support an individual laboratory or a small multi-PD/PI group. Supported projects will reflect the NIH BRAIN Initiative interests in the application of cutting-edge methodologies in the service of understanding brain circuit function at cellular and sub-second levels of resolution in ethologically relevant behaviors. Applications should offer specific, feasible research goals as endpoints within a 5-year term.

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: December 8, 2017 and March 15, 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: Exploratory Research Opportunities Using Invasive Neural Recording and Stimulating Technologies in the Human Brain (U01)

Agency: National Institutes of Health RFA-NS-18-010

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-NS-18-010.html>

Brief Description: Investigations within the human brain offer revolutionary, but challenging, opportunities for experimental investigation of how the 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 FOA seeks applications to assemble integrated, multi-disciplinary teams to develop exploratory research efforts to overcome these fundamental barriers. Projects should investigate high-impact questions in human neuroscience and the biological basis of disorders of the human nervous system. Designs should be offered to turn early-stage, range-finding data into mechanistic models and hypotheses, including validation of biological presumptions. Research designs can be offered as pilot projects, exploratory research or activities to establish feasibility, proof-of-principle and early-stage development of technologies or approaches in human neuroscience. Studies that offer planning and development for high temporal resolution of behavioral quantification integrated with invasive recording of brain activity is encouraged, especially those that would transition to utilization in naturalistic environments outside of strict laboratory settings. It is expected that projects funded under this FOA will build teams and data that can later compete for a “phase II” of continued funding under new or ongoing FOAs of the BRAIN Initiative or other programs.

An additional goal of this FOA within the NIH BRAIN portfolio is to support human research studies that seek to understand complex human behaviors by precisely measuring and analyzing behavior with high temporal resolution during neural recordings in naturalistic settings. This can be made possible through utilization of rapid advances in neural recording technology, wearables, computational capability, and analytical approaches. Projects that include this goal should demonstrate feasibility or show proof-of-concept that will lead to realization of methodologies for monitoring behavior outside of constraining laboratory settings.

Projects should engage 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.

In the interest of iterative models of discovery, limited support for complementary animal studies may be allowed only 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. Further, 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: December 19, 2017

Deadline: January 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: National Institute of General Medical Sciences Ruth L. Kirschstein National Research Service Award (NRSA) Predoctoral Institutional Research Training Grant (T32)

Agency: National Institutes of Health PAR-17-341

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-341.html>

Brief Description: Through this funding announcement, NIGMS intends to encourage changes in biomedical graduate training to keep pace with the rapid evolution of the research enterprise that is increasingly complex, interdisciplinary, and collaborative. As the scientific enterprise has expanded, there is greater variation in the backgrounds of people participating, approaches taken to investigate research questions, and the range of the careers in the biomedical research workforce that Ph.D. recipients are pursuing. There is also an increasing recognition of the need to enhance reproducibility of biomedical research results through scientific rigor and transparency. This FOA is intended to enable the scientific community to develop and implement evidence-based approaches to biomedical research training and mentoring that will effectively train future generations of outstanding biomedical scientists.

Each funded program should provide high-quality research training, mentored research experiences, and additional opportunities that equip trainees with the technical, operational and professional skills required for careers in the biomedical research workforce. The intention is not to layer additional activities onto existing structures; instead, this FOA is designed to allow for

creative approaches to biomedical graduate training that preserve the best elements of current programs, while enhancing the focus on the development of trainee skills.

The **Overarching Objective** of the NIGMS Predoctoral Institutional Research Training Grant (T32) program is to develop a diverse pool of well-trained scientists who have the following:

- A broad understanding across biomedical disciplines and the skills to independently acquire the knowledge needed to advance their chosen field;
- The ability to think critically, independently and to identify important biomedical research questions and approaches that push forward the boundaries of their areas of study;
- A strong foundation in scientific reasoning, rigorous research design, experimental methods, quantitative approaches, as well as data analysis and interpretation;
- A commitment to approaching and conducting biomedical research responsibly and with integrity;
- Experience initiating, conducting, interpreting, and presenting rigorous and reproducible biomedical research with increasing self-direction;
- The ability to work effectively in teams with colleagues from a variety of cultural and scientific backgrounds, and to promote inclusive and supportive scientific research environments;
- The skills to teach and communicate scientific research methodologies and findings to a wide variety of audiences (e.g., discipline-specific, across disciplines, and the public); and
- The knowledge, professional skills and experiences required to identify and transition into careers in the biomedical research workforce (i.e., the breadth of careers that sustain biomedical research in areas that are relevant to the NIH mission).

Because diversity at all levels is integral to research and training excellence, this FOA is intended to support outstanding research training environments that focus on all trainees and enhance diversity in the biomedical enterprise by paying particular attention to groups underrepresented in the biomedical sciences, [NOT-OD-15-053](#).

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

Letter of Intent: Not Applicable

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: NIH Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience (D-SPAN) Award (F99/K00)

Agency: National Institutes of Health RFA-NS-18-007

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-NS-18-007.html>

Brief Description: The purpose of the NIH Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience Award or D-SPAN (F99/K00) is to enhance the pool of well-trained diverse neuroscientists who will pursue academic/research careers. The D-SPAN will support mentored research training for late-stage graduate students from backgrounds that are nationally underrepresented in neuroscience research and who have demonstrated interest and potential in pursuing careers as independent researchers. The F99/K00 award will provide up to 6 years of support in two phases, described further in the section below. Strong individualized research training plans and career development activities will outline a defined research pathway and are expected to enhance the development of independent neuroscience research careers.

Individuals from underrepresented backgrounds in neuroscience research are eligible for support under this award if they are currently enrolled as students in a PhD or equivalent research doctoral degree program at the time of application. While the term "diversity" can generally encompass many personal attributes and characteristics, this NIH Blueprint D-SPAN award program seeks to support NIH's interest in enhancing the participation of individuals from groups that are nationally underrepresented in biomedical research ([NOT-OD-15-053](#)). See Section III for additional information regarding eligibility for this program.

The D-SPAN F99/K00 award is intended for individuals from nationally underrepresented backgrounds who have demonstrated an interest in a neuroscience research career in [NIH Blueprint](#) mission-relevant areas and/or [BRAIN Initiative](#) research areas. At the time of award, applicants are expected to require 1-2 years to complete their PhD dissertation research training (F99 phase) before transitioning to mentored postdoctoral research training (K00 phase). **Consequently, applicants are expected to propose an individualized research training plan for the next 1-2 years of dissertation research training and a plan for 3-4 years of mentored postdoctoral research training and career development activities that will prepare them for independent neuroscience-focused research careers.**

The D-SPAN F99/K00 award is meant to provide up to 6 years of support in two phases. The initial phase (F99) will provide support for the final 1-2 years of dissertation research in a neuroscience related field (including experiments, dissertation preparation) and the search for/selection of a postdoctoral mentor. The two award phases are intended to be continuous in time. The second phase (K00) will provide up to 4 years of mentored postdoctoral research career development support and is contingent upon successful completion of the doctoral degree requirements. A K00 award will be made only to a PD/PI who has successfully completed the F99-supported training, secured an appropriate postdoctoral position, and has provided the NIH Blueprint oversight committee with a strong research and career development plan that will occur in a supportive and competitive research environment.

Awards: For the F99 phase, award budgets are composed of stipends, tuition and fees, and institutional allowance, as described below. For the K00 phase, award budgets are composed of salaries and fringe benefits, research and career development support, and indirect costs. NIH Blueprint will contribute up to \$50,000 toward the salary of the career award recipient.

Letter of Intent: 30 days prior to the application due date

Deadline: December 13, 2017, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on this date.

No late applications will be accepted for this Funding Opportunity Announcement.

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

Grant Program: NCI Outstanding Investigator Award (R35)

Agency: National Institutes of Health PAR-17-494

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-494.html>

Brief Description: The purpose of the National Cancer Institute (NCI) Outstanding Investigator Award is to provide long-term support and increased flexibility for investigators with outstanding records of research productivity to continue or to embark upon a research program of unusual potential in cancer. Candidates for the OIA must be nominated by their applicant organization. Special features of the OIA include 7-year project periods; the expectation that the OIA PD/PI commit at least 6 person months effort to the OIA; the expectation of clear and substantial Institutional commitment to the PD/PI, for example, providing 20% of salary support; and that

PD/PIs will be expected to renegotiate their time and effort on all other grant support, including NIH grants, in order to accommodate the OIA level of effort. It is expected that the OIA will replace current NCI funding on individual research grants. The NCI will only consider funding two additional research project grants to the Outstanding Investigator while the OIA is active. This limit includes single PD/PI, multiple PD/PI and multi-project grants where the OIA Investigator is the PD/PI.

Awards: Awards will be for \$600,000 direct costs per year, plus applicable Facilities and Administrative (F&A) costs to be determined at the time of award.

Letter of Intent: 30 days prior to the application due date

Deadline: November 28, 2017, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on this date.

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

Grant Program: BRAIN Initiative: Exploratory Team-Research BRAIN Circuit Programs - eTeamBCP (U01)

Agency: National Institutes of Health RFA-NS-18-008

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-NS-18-008.html>

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

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

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

motor, sensory and cognitive behaviors, and how this information evolves dynamically to adapt, refine and learn.

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

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

Letter of Intent: November 15, 2017

Deadline: December 15, 2017, 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: Collaborative Program Grant for Multidisciplinary Teams (RM1)

Agency: National Institutes of Health PAR-17-340

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-340.html>

Brief Description: This funding opportunity announcement (FOA) encourages Collaborative Program Grant applications from institutions/organizations that propose to conduct research to address complex and challenging biomedical problems, important for the mission of NIGMS, through deeply integrated, multidisciplinary research teams. The Collaborative Program Grant is designed to support research in which funding a team of interdependent investigators offers significant advantages over support of individual research project grants. Applications should address critical issues and be sufficiently challenging, ambitious, and innovative that objectives could not be achieved by individual investigators.

Background

Recent reports (e.g., [enhancing the effectiveness of team science](#)) have evaluated the benefits of a team science approach to scientific inquiry, and the need to create flexible funding opportunities that enable interdisciplinary research teams to accomplish goals that could not be achieved individually. The Collaborative Program Grant draws on our past experience and is designed to improve support for interdisciplinary collaborative research across different scientific domains. We also anticipate that these grants will enhance the diversity and interdisciplinarity of participating investigators, and may encourage early stage investigators (ESIs) to initiate short-term, complementary pilot studies that enrich the team's program objectives.

Scope of Research

Successful Collaborative Program Grant applications will bring together scientists to apply complementary approaches to work on an important and well-defined problem. Applications may address any area of science within the NIGMS mission, which is to support basic research that increases understanding of biological processes at a range of levels, from molecules and cells to tissues, whole organisms and populations. NIGMS also supports research in a limited number of clinical areas that affect multiple organ systems (see [here](#) for scientific areas supported by NIGMS). Truly new interdisciplinary ideas for approaching significant biological problems are encouraged. Applications that bridge the research interests of more than one NIGMS division are

also encouraged, but must remain within the scope of the NIGMS mission. Consultation with NIGMS staff (see below) prior to preparing an application is strongly encouraged.

Awards: While applications may request research program budgets of up to \$1.5 million direct costs per year, it is anticipated that most awards will be between \$700,000-\$900,000 direct costs. Inflationary adjustments are not allowed. The requested budget should be consistent with the number of PDs/PIs and the complexity and needs of the proposed program. In addition to the research program budget, an additional \$250,000 direct costs per year may be requested for optional exploratory pilot studies for ESIs.

Letter of Intent: 30 days prior to the application due date

Deadline: January 25, 2018; May 25, 2018; January 25, 2019; May 25, 2019; January 25, 2020; May 25, 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: DoD Medical Simulation and Information Sciences, Toward A Next-Generation Trauma Care Capability: Foundational Research for Autonomous, Unmanned, and Robotics Development of Medical Technologies (FORWARD) Award

Agency: Department of Defense Dept. of the Army – USAMRAA W81XWH-17-MSISRP-FOR

Website: <http://cdmrp.army.mil/>

Brief Description: The MSISRP FORWARD Award mechanism is being offered for the first time in FY17. This mechanism supports basic research to increase knowledge/understanding through discovery and hypothesis generation, and should focus on providing basic fundamental knowledge that will inform and enable the future development of novel autonomous and/or robotic medical systems to care for wounded soldiers/patients through breakthrough, exploratory research. The objective of the FY17 MSISRP FORWARD Award is focused on addressing the following Topic Areas: 1. Autonomous and Unmanned Medical Capability – Identify novel ideas, approaches and research towards the conceptualization of autonomous and unmanned technologies for next-generation, high-quality medical capabilities with limited or absent medical care personnel, or personnel with limited skills. Research novel concepts, plausible approaches and advanced concept designs using biologically inspired cognitive computing models, machine learning, artificial intelligence, soft robotic semi-autonomous/autonomous resuscitation concepts and advanced applications of information sciences among other innovative, exploratory research towards advancing the state-of-the-art in delivery of forward resuscitative care at the point of injury. 2. Medical Robotics Research – Identify novel ideas, approaches and research towards the conceptualization of medical robotics and real-time tele-presence capabilities exploring the limits of machine perception for tele-robotic semi-autonomous and autonomous trauma care within remote and dispersed geographic settings. This could include exploratory research in semi-autonomous robotic surgery to improve the safety profile and efficacy of tele-surgical procedures and outcomes using hard robotics in challenging situations (e.g., combat casualties on the multi-domain battlefield or mass casualty situations) and remote or austere geographic locations, among other innovative, exploratory research aims and novel concepts.

Awards: Funding available: \$2,600,000

Proposal Deadline: February 05, 2018

Contact Information: CDMRP Help Desk: 301-682-5507 Email: help@eBRAP.org

Grant Program: FY18-FY22 Broad Agency Announcement for Extramural Medical Research
Agency: Department of Defense Dept. of the Army – USAMRAA W81XWH18SBAA1

Website: <http://cdmrp.army.mil/>

Brief Description: The United States Army Medical and Materiel Command's (USAMRMC) mission is to provide solutions to medical problems of importance to the American Service member at home and abroad, as well as to the general public at large. The scope of the effort and the priorities attached to specific projects are influenced by changes in military and civilian medical science and technology, operational requirements, military threat assessments, and national defense strategies. Extramural research and development programs play a vital role in the fulfillment of the objectives established by the USAMRMC. General information on the USAMRMC can be obtained at <http://mrmc.amedd.army.mil/>. The USAMRMC Fiscal Year 18 – Fiscal Year 22 (FY18-FY22) Broad Agency Announcement (BAA) is intended to solicit extramural research and development ideas and is issued under the provisions of the Competition in Contracting Act of 1984 (Public Law 98-369), as implemented in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016 and in DoD Grant and Agreement Regulations (DoDGARS) 22.315. In accordance with FAR 35.016, projects funded under the BAA must be for basic and applied research to support scientific study and experimentation directed towards 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 funded through the BAA are intended and expected to benefit and inform both military and civilian medical practice and knowledge. The selection process is highly competitive and the quantity of meaningful submissions (both pre-proposals/pre-applications and full proposals/applications) received typically exceeds the number of awards that available funding can support. The BAA provides a general description of the USAMRMC's research and development programs, including research areas of interest, evaluation and selection criteria, pre-proposal/pre-application and full proposal/application preparation instructions, and general administrative information. Specific submission information and additional administrative requirements can be found in the document titled "General Submission Instructions" available in Grants.gov along with the BAA. The FY18-FY22 USAMRMC BAA is continuously open for a 5-year period, from October 1, 2017 through September 30, 2022, at 11:59 p.m. Eastern Time. Submission of a pre-proposal/pre-application is required and must be submitted through the electronic Biomedical Research Application Portal (eBRAP) (<https://eBRAP.org/>). Pre-proposals/pre-applications may be submitted at any time throughout the 5-year period. If the USAMRMC is interested in receiving a full proposal/application, the Principal Investigator will be sent an invitation to submit via eBRAP. A full proposal/application must be submitted through Grants.gov (<http://www.grants.gov/>). Invited full proposals/applications can be submitted under this FY18-FY22 BAA through September 30, 2022.

Awards: Funding available

Proposal Deadline: September 30, 2022

Contact Information: CDMRP Help Desk: 301-682-5507 Email: help@eBRAP.org

Grant Program: DoD Hearing Restoration Research Program Focused Research Award
DoD Hearing Restoration Research Program Translational Research Award
Agency: Department of Defense Dept. of the Army -- USAMRAA

W81XWH-17-HRRP-FRA; W81XWH-17-HRRP-TRA

Website: <https://www.grants.gov/web/grants/view-opportunity.html?opId=297413>

Brief Description: The FY17 HRRP FRA is intended to support functional hearing restoration research that develops and validates assessment techniques and treatment methods using patient-centric outcomes to identify potential predictive indicators for successful treatment of individuals living with functional auditory system deficits. The research in this area should result in refined diagnostic tools and improved evaluation of the effectiveness of therapeutic approaches. Applications involving multidisciplinary collaborations among academia, industry, the military Services, the VA, and other Federal Government agencies are highly encouraged. Under this award mechanism, research may support correlative or observational studies that are associated with an ongoing or completed clinical trial.

The FY17 HRRP TRA mechanism is being offered in this first year of the program to support preclinical translational research that will accelerate the movement of promising initiatives relevant to hearing restoration into clinical applications. The ultimate goal of translational research is to move an observation forward into clinical application and accelerate the clinical introduction of healthcare products, technologies, or practice guidelines. Observations that drive a research idea may be derived from a laboratory discovery, population-based studies, or a clinician’s first-hand knowledge of patients and anecdotal data. However, Principal Investigators (PIs) should not view translational research as a one-way continuum from bench to bedside. The research plan should involve a reciprocal flow of ideas and information between basic and clinical science.

Awards: Funding available: \$6,400,000

Proposal Deadline: November 15, 2017

Contact Information: CDMRP Help Desk: 301-682-5507 Email: help@eBRAP.org

Department of Energy

Grant Program: Generation 3 Concentrating Solar Power Systems

Agency: Department of Energy DE-FOA-0001697

Website: <https://www.energy.gov/eere/sunshot/funding-opportunity-announcement-generation-3-concentrating-solar-power-systems-gen3csp>

Brief Description: The U.S. Department of Energy’s (DOE) Energy Efficiency and Renewable Energy (EERE) Solar Energy Technology Office (SETO) is seeking applications under this Funding Opportunity Announcement (FOA) to fund applied research and development to enable the reduction of the levelized cost of electricity (LCOE) generated by concentrating solar power (CSP) to 6 ¢/kWh-electric or less, without subsidies. This FOA intends to develop integrated thermal system solutions to overcome the temperature limitations of current CSP systems, while lowering capital costs by enabling the use of advanced turbines and achieving a higher overall system efficiency in converting solar thermal energy into electricity. Applications to this FOA are expected to advance individual high temperature components which have been developed at lab scale, and test them as an integrated system at a multi-MW thermal scale that can accept solar thermal energy, store it, and efficiently deliver it to a working fluid at high temperature, representative of a high efficiency power cycle.

Submission Deadline:

Submission Deadline for Mandatory Concept Papers:	October 27, 2017 5:00pm ET
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Submission Deadline for Full Applications:	January 19, 2018 5:00pm ET
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Contact Information: EERE-ExchangeSupport@Hq.Doe.Gov

Grant Program: RFI: Solar Energy Technology Analysis & Data Needs

Agency: Department of Energy DE-FOA-0001818

Website: <https://eere-exchange.energy.gov/#Foald2f31dbc5-6e1c-469a-a85b-dd174b90e0c2>

Brief Description: The Solar Energy Technologies Office (SETO), in the Office of Energy Efficiency and Renewable Energy (EERE) of the U.S. Department of Energy (DOE), is requesting input on integrated data and analysis needs across the solar value chain to inform near to mid-term plans for the development of information based network planning, real time optimization, and bankability tools in the context of the SunShot 2030 goals. SETO aims to better understand the information-related problems and questions that exist for key stakeholders, including manufacturers, project developers, financiers, engineering procurement and construction businesses, state and local jurisdictions, researchers, analysts, and others supporting the technological advancement and wide scale adoption of solar technology.

RFI: Responses to this RFI must be submitted electronically to solaranalysis@ee.doe.gov no later than 5:00pm (ET) on October 6, 2017. Responses must be provided as attachments to an email. It is recommended that attachments with file sizes exceeding 25MB be compressed (i.e., zipped) to ensure message delivery. Messages that are over 25MB, even after compression, will not be delivered. Responses must be provided as a Microsoft Word (.docx) attachment to the email, and no more than 10 pages in length, 12 point font, 1 inch margins. Only electronic responses will be accepted.

Deadline: October 06, 2017

Contact Information: EERE-ExchangeSupport@Hq.Doe.Gov

NASA

Grant Program: Use of the NASA Physical Sciences Informatics System - Appendix D

Agency: NASA NNH17ZTT001N-17PSI-D

Website:

<https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=a3086df0e6b38ec720476107b522fd90>

Brief Description: This National Aeronautics and Space Administration (NASA) Research Announcement (NRA) solicits ground-based research proposals from established researchers and graduate students to generate new scientific insights by utilizing experimental data residing in NASA's Physical Sciences Informatics (PSI) system (<http://psi.nasa.gov>), an online database of completed physical science reduced-gravity flight experiments conducted on the International Space Station (ISS), Space Shuttle flights, and Free-flyers, or from related ground-based studies. The solicitation (NNH17ZTT001N-17PSI-D), entitled "Use of the NASA Physical Sciences Informatics System - Appendix D," will be available on or about September 15, 2017. Upon release, the solicitation will be found via the following steps: 1. Open the NSPIRES homepage at <http://nspires.nasaprs.com/> 2. Select "Solicitations" 3. Select "Open Solicitations" 4. Select "Use of the NASA Physical Sciences Informatics System NNH17ZTT001N" 5. Select List of Open Program

Elements 6. Select "Use of the NASA Physical Sciences Informatics System - Appendix D" 7. Select "Appendix D NNH17ZTT001N-17PSI-D" under Announcement Documents. NASA plans to host a proposers' conference via WebEx shortly after the release of the Appendix to provide more information and to answer questions about the NRA and the PSI system. NASA's Physical Sciences Research Program conducts fundamental and applied physical sciences research, with the objective of enabling exploration and pioneering scientific discovery. NASA's experiments in the various disciplines of physical science reveal how physical systems respond to the near absence of gravity. They also reveal how other phenomena which have a small influence on physical systems in earth's gravity, can dominate system behavior in space. The PSI system (<http://psi.nasa.gov>) is an online, publicly accessible database of completed physical science reduced-gravity flight experiments conducted on the ISS, Space Shuttle flights, or Free Flyers and related ground-based studies. It is a tool designed for researchers to data mine information from reduced-gravity physical sciences experiments and use it to further science in accordance with the open science approach, while also meeting the requirements of the nation's Open Data Policy. This NRA solicits ground-based research proposals that present a compelling case on how the experimental data from the PSI system will be used to promote the advancement of further research. Proposers must show a clear path from the scientific data obtained from the PSI system to the proposed investigation. In addition, the project must address an important problem in the proposed area of research and advance scientific knowledge or technology. This NRA will remain open for five years. There will be annual call for proposals through a series of appendices which are planned to be released yearly. In general, the NRA solicits research in the following six research areas: 1) Biophysics, 2) Combustion Science, 3) Complex Fluids, 4) Fluid Physics, 5) Fundamental Physics, and 6) Materials Science. This announcement includes Appendix D, which will solicit proposals in several research areas identified above. See the full Appendix D for the list of the research areas solicited and eligible PSI investigations. Proposals for Appendix D are due on or about December 15, 2017. This solicitation is applicable to researchers in 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, including postdoctoral scholars; 2) graduate students (with academic advisors) from accredited U.S. postsecondary institutions and programs. Proposals from graduate students must be submitted by their advisor. Principal Investigators (PIs) may collaborate with investigators from universities, Federal Government laboratories, the private sector, state and local government laboratories, and other countries. Proposals including international participation are eligible, provided NASA policies regarding the conduct of research with non-U.S. organizations are met. Proposals must be submitted by an authorized official of the proposing organization. Proposals must be submitted electronically. Proposers may use either NSPIRES (<http://nspires.nasaprs.com/>) or Grants.gov (<http://www.grants.gov>) for proposal submission. Every organization that intends to submit a proposal in response to this NRA must be registered with NSPIRES, and such registration must identify the authorized organization representative(s) who will submit the electronic proposal. Instructions on how to register in NSPIRES are provided in the NRA. Each electronic proposal system places requirements on the registration of principal investigators and other participants (e.g., co-investigators). Potential proposers and proposing organizations are urged to access the system(s) well in advance of the proposal due date(s) to familiarize themselves with its structure and enter the requested information. Questions with regard to responding to this NRA may be addressed to the contacts referenced in the full solicitation document. This is a broad agency announcement as specified in FAR 6.102 (d)(2).

Awards: TBA

Response Deadline: December 15, 2017

Contact: Dr. Francis Chiaramonte, Program Scientist for Physical Sciences
francis.p.chiaramonte@nasa.gov Phone: 202-358-0693

National Endowment of Humanities

Grant Program: Collaborative Research Grants

Agency: National Endowment of Humanities

Website: <https://www.neh.gov/grants/research/collaborative-research-grants>

Brief Description: Debate, exchange of ideas, and working together—all are basic activities that advance humanities knowledge and foster rich scholarship that would not be possible by researchers working on their own. The Collaborative Research grant program encourages collaboration that proposes diverse approaches to topics, incorporates multiple points of view, and explores new avenues of inquiry that lead to publications and other resources for scholarly audiences and/or general audiences.

Collaborative Research grants support groups of two or more scholars engaging in significant and sustained research in the humanities. The program seeks to encourage interdisciplinary work, both within the humanities and beyond. Projects that include partnerships with researchers from the natural and social sciences are encouraged, but they must remain firmly rooted in the humanities and must employ humanistic methods.

Eligible projects must propose tangible and sustainable outcomes such as co-authored or multi-authored books; born-digital publications; themed issues of peer-reviewed journals; and content-rich, open-access digital resources (for example, websites, databases, or tools). All project outcomes must be based on and must convey interpretive humanities research. All grantees are expected to disseminate the results of their work to scholarly audiences and/or general audiences.

Awards: Collaborative Research offers three types of awards to address different sorts of projects and stages of development.

Type 1: Convening Grants – up to \$50,000

Convening grants last one year and typically fund conferences and working group meetings to sharpen the chosen research topic and discuss and plan subsequent publication.

Type 2: Publication Grants – up to \$250,000 (no more than \$100,000 per year)

Publication grants last one to three years and support the project toward completion of its publication goals. Publications can appear in traditional print or in digital form. Note that costs paid to publishers and subventions are not supported.

Type 3: Archaeology Grants – up to \$250,000 (no more than \$100,000 per year)

Archaeology grants last one to three years and support projects that lead to publication.

Proposal Deadline: Information about Preliminary Draft Proposals

Prospective applicants may submit a draft of their proposal for staff review (submission of draft proposals is optional) no later than October 15.

Final Proposals: **December 6, 2017** for Projects Beginning October 2018

Contact: Contact NEH's Division of Research Programs at 202-606-8200 and collaborative@neh.gov

Grant Program: Next Generation Humanities PhD Planning Grants

Agency: National Endowment of Humanities

Website: <https://www.neh.gov/grants/education/next-generation-humanities-phd-planning-grants>

Brief Description: Next Generation Humanities PhD Planning Grants support universities in preparing to institute wide-ranging changes in humanities doctoral programs. Humanities knowledge and methods can make an even more substantial impact on society if students are able to translate what they learn in doctoral programs into a multitude of careers. Next Generation PhD Planning Grants are designed to bring together various important constituencies to discuss and strategize, and then to produce plans that will transform scholarly preparation in the humanities at the doctoral level. Students will be prepared to undertake various kinds of careers, and humanities PhD programs will increase their relevance for the twenty-first century.

Grantee institutions must provide funds raised from nonfederal third parties equal to the grant funds released by NEH.

Awards: NEH will offer successful applicants a 1:1 matching grant of up to \$25,000 for as long as twelve months. Thus the total grant will come to a maximum of \$50,000: up to \$25,000 raised by the grantee institution from nonfederal third parties, and up to \$25,000 provided by NEH..

Proposal Deadline:

November 1, 2017: Create or verify your institution's Entity record at the System for Award Management by this date

November 15, 2017: Register your institution (or verify its registration) with Grants.gov by this date

November 29, 2017: Submit application through Grants.gov by this date

Contact: Contact the staff of NEH's Division of Education Programs at 202-606-8500 or nextgen@neh.gov. Applicants who are deaf or hard of hearing can contact NEH via Federal Relay (TTY users) at 800-877-8399.

The Lemelson Foundation

Grant Program: Lemelson-MIT Prize

Agency: The Lemelson Foundation

Website: <https://lemelson.mit.edu/prize>

Brief Description: The \$500,000 Lemelson-MIT Prize recognizes individuals who translate their ideas into inventions that improve the world in which we live. The Lemelson-MIT Prize is awarded to outstanding *mid-career* inventors, who have developed a patented product or process of significant value to society, which has been adopted for practical use, or has a high probability of being adopted.

Eligibility Requirements: Candidates for the \$500,000 Lemelson-MIT Prize must:

- be U.S. citizens or permanent residents
- be mid-career, which is defined as having received their bachelor's degree no more than twenty-five years ago. A nominee for the 2018 \$500,000 Lemelson-MIT Prize must have received their bachelor's degree in 1993 or later.
- be the primary inventor of two or more granted U.S. patents, one of which is a product or process that has been commercialized or has potential or realized adoption
- serve as an inspiration to young people, through their creativity, outreach or mentoring activities

Candidates may be individuals or two collaborating inventors, and they must be nominated by one of their peers. Winners will be invited and encouraged to participate in Lemelson-MIT Program activities.

Awards: \$500,000 Lemelson-MIT Prize

Proposal Deadline: November 30, 2017

Contact: For more information, please also contact Eric Blitz, Associate Director for Development Corporate and Foundation Relations, eric.blitz@njit.edu

Henry Luce Foundation

Grant Program: HERS-CBL Scholarships

Agency: Henry Luce Foundation

Website: <https://hersnet.org/institutes/cbl-stem-scholarship/>

Brief Description: These grants provide women faculty the opportunity to participate in one of the two HERS Summer Leadership Institutes,

at the University of Denver or at Bryn Mawr College,

The HERS-CBL Scholarship will cover the following expenses:

- Tuition, accommodations and meals for the HERS Institute
- Expenses for travel to and from the selected Institute
- Expenses for 1½ day Orientation with other HERS-CBL participants before the Institute

Fields included are physical and natural sciences, engineering, computing and mathematics; excluded are medical, health and social sciences.

Candidates must be U.S. citizens.

Preference will be given to women who have “significant administrative experience (e.g. served as Department Chair or other senior role),

who are moving towards, or have attained the rank of full professorship; and who have expressed a strong interest in or are committed to pursuit of an academic leadership role.”

Women faculty in the included STEM fields who are tenured and have a strong interest in STEM leadership but have had more limited leadership roles are also encouraged to apply.

Candidates may be individuals or two collaborating inventors, and they must be nominated by one of their peers. Winners will be invited and encouraged to participate in Lemelson-MIT Program activities.

Proposal Deadline: For the 2018 Summer Institutes, HERS-CBL Scholarship applications will be accepted beginning September 1, 2017, with a deadline of November 17, 2017. Participants will be notified of their status by January 15, 2018. (If accepted for the Institute but not selected for this scholarship, candidates may attend with alternate support.)

Contact: For more information, please also contact Eric Blitz, Associate Director for Development Corporate and Foundation Relations, eric.blitz@njit.edu

Streamlyne Update

It has been very exciting to introduce Streamlyne as the new tool for Grant Management. Streamlyne is simplifying the pre-award proposal submission processes promoting shared information technology (IT), and improving the timeliness of grant close out. Currently Streamlyne system has been customized in the following areas:

- Download the package with all forms – there are still some exceptions to this as the federal government continues to change some of the standard forms.
- Validation error prior to submission – this allows to review the package for errors
- Work Flow approval transparent to all users
- Budget forms customized to NSF and/or S2S
- Sub-award budgets easily download – this will allow better management of the award

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

- ◆ [How to Begin Proposal Submission in Streamlyne](#)
- ◆ [How to Input Proposal Budget](#)
- ◆ [How to Process Approvals](#)
- ◆ [How to Upload Proposal Attachments](#)
- ◆ [How to Search for a Proposal that is in Route](#)
- ◆ [Difference Between "Prime Sponsor Code" and "Sponsor Code"](#)
- ◆ [How to Select an RR Budget, RR Sub-award or Modular Budget](#)
- ◆ [How to Add a Student/Summary](#)
- ◆ [Participant Support Categories](#)
- ◆ [Supplies Specific Category Materials](#)
- ◆ [How to Create a Modular Budget](#)

Also, the following links may be helpful:

- ◆ [Streamlyne Benefits for Proposal Submission and Grant Management](#)
- ◆ [Grants.gov Presentation on Online Proposal Submission Systems](#)
- ◆ [Streamlyne Newsletter V2017.1](#)
- ◆ [Streamlyne FAQs](#)

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

Nancy Henderson, CCS Project Manager
973-596-5687; nancy.henderson@njit.edu

Iris Pantoja, CoAD and SOM Project Manager
973-596-4483; irp3@njit.edu
