

NJIT Research Newsletter

Issue: ORN-2017-23

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

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Memorandum

From: Atam Dhawan, Senior Vice Provost for Research
Sotirios Ziavras, Vice Provost for Graduate Studies and Dean of the Graduate Faculty
To: Faculty and Staff (PIs of Research Proposals)
Re: Research Proposal Budget to Support Research Assistants (RAs)

For research proposals, tuition costs for graduate students should be budgeted for 9-12 credit hours per semester for the entire duration of the grant. Though graduate students may be registered for fewer number of credit hours as they advance in their degree programs, it is better to avoid any situation of potential shortfall in the budgeted amount for tuition in case a student needs to register for more credit hours or a new student is employed on the grant. Any exception to this guideline for special needs or circumstances should be discussed with the point-of-contact (Office of Research representative) Director of Research or Project Manager) for the respective college/school at the earliest, and followed up with the director, sponsored research programs administration and vice provost for graduate studies for approvals.

College/School Point-of-Contact Representative:

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

Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

NSF: Information and Intelligent Systems (IIS): Core Programs; Computing and Communication Foundations (CCF): Core Programs; Computer and Network Systems (CNS): Core Programs; Joint DMS/NIGMS Initiative to Support Research at the Interface of the Biological and Mathematical Sciences (DMS/NIGMS); Advanced Technological Education (ATE); Innovative Technology Experiences for Students & Teachers (ITEST)

NIH: Notice of Intent to Publish a Funding Opportunity Announcement for Point of Care Technologies Research Network Centers (U54); Biomedical Technology Research Resource (P41); Pre-Application for Biomedical Technology Research Resource (X02)

Department of Defense/US Army/DARPA/ONR: FY2018 Basic Research Challenge (BRC) Program; CENTER OF EXCELLENCE: Trusted Human-Machine Teaming; FY2018 Vannevar Bush Faculty Fellowship; Autism Research Program (ARP) Idea Development Award; Office of Naval Research (ONR) Young Investigator Program (YIP)

Department of Energy: Photovoltaics (PV) Innovation Roadmap; Technology Development to Ensure Environmentally Sustainable CO₂ Injection Operations; Request For Information (RFI): Clean Water Technologies; Request For Applications (RFA) Entitled "Biomass Research And Development Initiative (BRDI)"

NASA: ROSES 2017: Planetary Science and Technology Through Analog Research; ROSES 2017: New Investigator Program; ROSES 2017

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

Streamlyne: Contact Information

Recent Research Grant and Contract Awards

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

PI: Joerg Kliewer (PI)

Department: Electrical and Computer Engineering

Grant/Contract Project Title: Collaborative Research: CCSS: Coding for 5G and Beyond: Limits and Efficient Algorithms

Funding Agency: NSF

Duration: 09/01/17-08/31/20

PI: Tara Alvarez (PI)

Department: Biomedical Engineering

Grant/Contract Project Title: Functional Mechanisms of Neural Control in Convergence Insufficiency

Funding Agency: NIH

Duration: 04/01/14-03/31/19

PI: Reginald Farrow (PI)

Department: Physics

Grant/Contract Project Title: Student Support for EIPBN 2017 Conference

Funding Agency: Department of Energy

Duration: 05/25/17-11/30/17

PI: Treena Arinzeh (PI)
Department: Biomedical Engineering
Grant/Contract Project Title: Schwann Cell GAG Mimetic Combination Strategy for Spinal Cord Repair
Funding Agency: New Jersey Institute of Health
Duration: 07/01/16-06/30/18

PI: Xuan Liu (PI)
Department: Electrical and Computer Engineering
Grant/Contract Project Title: Fiber-Optic Dual-Modality Optical Coherence Tomography for In-Situ Breast Tissue Characterization
Funding Agency: NIH
Duration: 05/10/17-05/09/18

PI: Edward Dreizin (PI) and Mirko Schoenitz (Co-PI)
Department: Chemical, Biological and Pharmaceutical Engineering
Grant/Contract Project Title: Validated Particle Agglomeration Models for Fireball Plasma and Fallout Products
Funding Agency: Defense Threat Reduction Agency
Duration: 07/15/16-12/15/17

PI: Murat Guvendiren (PI)
Department: Chemical, Biological and Pharmaceutical Engineering
Grant/Contract Project Title: Additive Manufacturing Lab
Funding Agency: Society of Plastics Engineers
Duration: 08/01/17-07/31/18

PI: Dirk Bucher (PI) and Farzan Nadim (Co-PI)
Department: Biological Sciences
Grant/Contract Project Title: The Role of Axons in Neural Coding
Funding Agency: NIH
Duration: 09/26/13-02/28/18

PI: Maggie Cheng (PI)
Department: MT School of Management
Grant/Contract Project Title: Collaborative Research: Computationally Efficient Solvers for Power System Simulation
Funding Agency: NSF
Duration: 10/01/16-07/31/18

PI: Yehoshua Perl (PI), James Geller (Co-PI) and Michael Halper (Co-PI)
Department: Computer Science
Grant/Contract Project Title: A Family-Based Framework of Quality Assurance for Biomedical Ontologies
Funding Agency: NIH
Duration: 03/04/15-02/28/18

PI: Gareth Russell (PI)
Department: Biological Sciences
Grant/Contract Project Title: Center for Conservation Criminology and Ecology (C3E)
Funding Agency: Rutgers University
Duration: 07/01/16-06/30/17

PI: Zhi Wei (PI)
Department: Computer Science
Grant/Contract Project Title: The Role of Genetic Susceptibility in Melanoma Development
Funding Agency: NIH
Duration: 05/15/14-04/30/18

PI: Somenath Mitra (PI)
Department: Chemistry and Environment Science
Grant/Contract Project Title: Bioactivity and Mechanistic Studies Using a Comprehensive and Well Characterized Nanotube Library
Funding Agency: NIH
Duration: 07/01/14-04/30/18

PI: James Holbrook (PI)
Department: Humanities
Grant/Contract Project Title: Collaborative Research: Science Policy Research Report: New Directions for Impact
Funding Agency: NSF
Duration: 07/01/17-06/30/18

In the News...

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

House Panels Reject Most Trump Cuts, but Jettison ARPA-E: Appropriators ignored President Trump's proposed double-digit cuts to various science agencies while imposing a big reduction at the Department of Energy's Office of Energy Efficiency and Renewable Energy and defunding the Advanced Research Projects Agency-Energy. That latter move may have been a negotiating tactic. ARPA-E is popular with Senate appropriators. The [American Institute of Physics' FYI](#) blog predicts a "possible standoff between the chambers" over energy research. The House bill covering the National Science Foundation, NASA, and the National Institute of Standards and Technology, meanwhile, doesn't differ too much from current spending levels. Exceptions are an 11 percent cut to NASA's earth science budget and a 19 percent cut to climate science at the National Oceanic and Atmospheric Administration (NOAA), [ScienceInsider reports](#). While a House panel turned down a \$105 million request to start building two research ships, "Senate appropriators are almost certain to restore the money," according to ScienceInsider. More on the website <http://www.sciencemag.org/news/2017/06/house-lawmakers-balk-most-trump-science-cuts-early-bills>

Notice of Intent to Publish a Funding Opportunity Announcement for Point of Care Technologies Research Network Centers (U54): The National Institutes of Health intends to

publish a solicitation for the Point-of-Care Technologies Research Network (POCTRN), targeting POCTRN Research Centers. POCTRN's purpose is to drive the development and/or application of appropriate point-of-care technologies through collaborative efforts that merge scientific and technological capabilities with clinical need. The POCTRN Research Centers will create a national research network that works to build expertise in the development and/or application of integrated point-of-care systems that address unmet clinical needs in point-of-care testing through the creation of multidisciplinary partnerships. While the overall Defense Research, Development, Testing, and Evaluation budget looks generous, **appropriators** directed most of the increase to late-stage development. The budget lines that fund university research stay flat or dip slightly. (The figures above were provided by the Coalition for National Security Research. Check out a comprehensive **defense funding chart** prepared by the Association of American Universities.) A winner in R&D is the Defense Advanced Research Projects Agency, which would get a six percent boost. More information on <https://grants.nih.gov/grants/guide/notice-files/NOT-EB-17-004.html>

OPEN CAMPUS: Appropriators are encouraging the Army Research Lab "to create additional opportunities for the United States academic research and development community to contribute to Department of Defense science and technology efforts. The Committee recommendation includes \$4,000,000 to support the hiring of university faculty under joint appointments with the laboratory at ARL extended campuses across the country to increase access to infrastructure, research staff, equipment, concepts, and results."

A Matter of Ethics: ASEE was well represented at an Academies workshop on **Infusing Ethics into the Development of Engineers** by, among others, Executive Director Norman Fortenberry, retired Public Affairs Director Bill Kelly, and Advances in Engineering Education Editor Larry Shuman. According to the report, "Fortenberry summarized many of the theoretical and practical conclusions of the workshop and identified many lingering questions. . . . 'I think we're spending too much time tinkering around the edges, when what we need is a movement toward much more radical change,' Fortenberry said. 'We need to move engineering departments to a team concept, no longer requiring each individual faculty member to be expert at an ever-expanding number of expectations. . . . We need to more broadly hire engineering faculty for their specialized knowledge of ethics and communication and other professional skills.'" Report is posted on the website <https://www.nap.edu/catalog/24821/overcoming-challenges-to-infusing-ethics-into-the-development-of-engineers>

Exploring the State of the Science in the Field of Regenerative Medicine: Regenerative medicine holds the potential to create living, functional cells and tissues that can be used to repair or replace those that have suffered potentially irreparable damage due to disease, age, traumatic injury, or genetic and congenital defects. The field of regenerative medicine is broad and includes research and development components of gene and cell therapies, tissue engineering, and non-biologic constructs. Although regenerative medicine has the potential to improve health and deliver economic benefits, this relatively new field faces challenges to developing policies and procedures to support the development of novel therapies are both safe and effective.

In October 2016, the National Academies of Sciences, Engineering, and Medicine hosted a public workshop with the goal of developing a broad understanding of the opportunities and challenges associated with regenerative medicine cellular therapies and related technologies. Participants

explored the state of the science of cell-based regenerative therapies within the larger context of patient care and policy. This publication summarizes the presentations and discussions from the workshop. Full report is posted on the website <https://www.nap.edu/catalog/24671/exploring-the-state-of-the-science-in-the-field-of-regenerative-medicine>

Next Generation Researchers Initiative: NIH has launched the Next Generation Researchers Initiative to bolster support for early-stage and mid-career investigators to address longstanding challenges faced by researchers trying to embark upon and sustain independent research careers. NIH and its stakeholder community have for many years been concerned about the long-term stability of the biomedical research enterprise. Too many researchers vying for limited resources has led to a hypercompetitive environment. Many highly meritorious applications go unfunded. This has too often resulted in misaligned incentives and unintended consequences for talented researchers at all career stages who are trying to succeed and stay in science. The current environment is particularly challenging for many new- and mid-career investigators.

Over the last several years, NIH has taken numerous steps to balance, strengthen, and stabilize the biomedical research workforce.

- [Special council review policy](#)
- [New Investigator/Early Stage Investigator Policies](#)
- [Initiatives from the Advisory Council to the NIH Director](#)
- [Programs for early-stage investigators](#)
- [New funding mechanisms for sustained research funding \(R35\)](#)

However, these measures have only taken us so far. While the percentage of NIH awards that support early-career investigators has gone from declining to flat, these gains have been offset by a decline in the percentage of NIH awards that support mid-career investigators.

To ensure the long-term stability and strength of the U.S. biomedical research enterprise, the pool of NIH-funded researchers must be balanced such that the greatest number of early stage and mid-career researchers are enabled to tackle tough research questions to improve the health of all Americans. This conclusion is widely shared both within and outside of NIH. In fact, the 21st Century Cures Act, which became law in December of 2016, instructs the NIH Director to promote policies that will encourage earlier independence and increased funding for new investigators.

With feedback and input from the research community, NIH is proposing a number of steps to enhance the potential of the next generation of researchers:

Approach

NIH will take a multi-pronged approach to increase the number of NIH-funded early-stage and mid-career investigators and stabilize the career trajectory of scientists by:

- Further extending the payline for [R01 equivalent](#) applications from early stage investigators, with an aim of funding most applications that score in the top 25 percentile (or receive a score of 35 or less if not percentiled)
- Providing additional support for mid-career investigators, defined as investigators who are within 10 years of receiving their first NIH [R01 equivalent](#) award, whose applications score in the top 25 percentile (or receive a score of 35 or less if not percentiled), by:
 - Extending the payline for those about to lose all NIH funding
 - Prioritizing funding of an additional concurrent [research project grant](#) award for particularly promising mid-career investigators currently supported by a single ongoing award
- The total cost of these measures, to be derived in each IC by rearranging priorities in other categories, is estimated (pending availability of funds), at:
 - ~\$210 million the first year

- Ramping up over 5 years to reach approximately \$1.1 billion per year
- NIH will also place greater emphasis on current NIH funding programs aimed at early-stage and mid-career investigators, such as:
 - NIH Common Fund's New Innovator Awards
 - National Institute of General Medicine Sciences Maximizing Investigators' Research Award (MIRA)
 - National Institute of Dental and Craniofacial Research Sustaining Outstanding Achievement in Research (SOAR) awards
 - National Institute of Arthritis and Musculoskeletal and Skin Diseases Supplements to Advance Research (STAR) from Projects to Programs
 - Other special awards from specific institutes
- NIH will track the impact of NIH Institute and Center funding decisions for early-stage and mid-career investigators with fundable scores, to ensure this new strategy is effectively implemented
- NIH will encourage the development and testing of metrics that can be used to assess the impact of NIH grant support on scientific progress

More information on the website <https://grants.nih.gov/ngri.htm>

A PowerPoint presentation from the advisory council is posted on the website <https://acd.od.nih.gov/documents/presentations/06082017Tabak.pdf>

NSF Policy and Awards Update (May 2017): NSF Pilots a New Collaborator and Other Affiliations Template: Last month NSF began piloting a new format for submitting Collaborators and Other Affiliations Information in FastLane. Proposers are required to include collaborators and other affiliations information for principal investigators (PIs), co-PIs and other senior project personnel. NSF uses this information to manage reviewer selection. The pilot standardizes the collection of this data across the Foundation and ensures that the information is submitted in a searchable format. This reduces the burden on NSF program staff who currently must spend time manipulating non-searchable files. Likewise, for the community, proposers can rest assured knowing that their format is acceptable to NSF. The new format requires PIs, co-PIs and other senior project personnel who are identified on the proposal to individually upload their Collaborators and Other Affiliations Information as a Single Copy Document which are only seen by NSF staff and not by reviewers.

Proposers will be directed to the new spreadsheet template while in FastLane. The template is fillable, and the content and format requirements must not be altered by the user. Proposers should not convert the file to PDF format prior to submitting the proposal to NSF, rather it should be completed and saved in .xlsx or .xls format to ensure preservation of searchable text, and uploaded into FastLane as a Single Copy Document. Using any other file format may delay the timely processing and review of the proposal. The template has been tested in Microsoft Excel, Google Sheets and LibreOffice. In addition to benefiting the merit review process, this template provides a compliant and reusable format for PIs to maintain and update for use in subsequent proposal submissions to NSF. The new Collaborators and Other Affiliations pilot only applies to FastLane proposal submissions. Grants.gov proposal submissions shall continue to follow the instructions in the Grants.gov Application Guide, Chapter VI. 2.4. More information on https://www.nsf.gov/pubs/2017/nsf17084/nsf17084.pdf?WT.mc_id=USNSF_109

Webinar and Events

Event: IEEE MIT Webinar: Energy Harvesting and Wireless Power Transfer for RFID and Wireless Sensors

When: July 11, 2017; 12.00 PM

Website:

https://event.on24.com/eventRegistration/EventLobbyServlet?target=reg20.jsp&referrer=&eventid=1408642&sessionid=1&key=F9D1F557822D1C054EDBE908B79E1741®Tag=&sourcepage=register&et_rid=2035965180&et_mid=83496349

About the Webinar: RFID technology provides a foundation, an enabling technology towards the realization of 'zero-power' wireless sensors and implementing the Internet-of-Things (IoT) and machine-to-machine (M2M) communication. Interest in RFID technology is further enhanced by its fundamental capability for wireless powering of devices, allowing for battery-less operation. The presentation begins with an overview of ambient energy availability and energy harvesting technology challenges for low power circuits and sensors. Design challenges and novel technologies and materials, such as paper, textiles, and inkjet/3D printing are highlighted. Subjects to be covered include:

- Electromagnetic energy transfer and harvesting for range maximization of passive RFID systems;
- Rectenna design and optimization under different operating conditions and in different operating frequencies from HF to millimeter waves;
- Multiple technology harvesters leading to the development of energy harvesting assisted RFIDs;
- Low profile and conformal solar antennas and solar-electromagnetic harvesters including examples implemented on paper and textile substrates;
- The integration of an antenna with a thermo-electric generator;
- Waveform optimization in wireless power transfer;
- RF-DC power conversion efficiency of electromagnetic energy harvesting devices.

The last part of the talk presents application examples including wireless sensors powered from solar and electromagnetic energy harvesting, millimeter wave back-scattering, solar energy harvesting for RFID tags and sensors based on ambient backscattering.

Speaker: Andrea Cossarizza, Ph.D.

University of Modena and Reggio Emilia School of Medicine Modena, Italy

Jens Peter Von Kries, Ph.D. Research Institute for Molecular Pharmacology (FMP) Berlin, Germany

Christoph Hergersberg, Ph.D. Thermo Fisher Scientific Eugene, OR

Register at: Above URL.

Event: IEEE Webinar: Advanced Data Acquisition and Logging Systems

When: Available on Demand

Website:

https://event.on24.com/eventRegistration/EventLobbyServlet?target=reg20.jsp&utm_source=Tech%2BAlert&utm_medium=Email&utm_campaign=TechAlert_07-06-17&eventid=1433462&sessionid=1&key=9BF06E3E1B2B31C7FAE1E9C5CF16298A®Tag=&sourcepage=register

About the Webinar: It is difficult to envision an industrial automation application that does not include a data acquisition system. Most applications include sensor data that must be acquired, analyzed, and logged, using acquisition (DAQ) systems that can be as diverse as the sensors themselves. With the rise of the Internet of Things, DAQ requirements are becoming even more

strict, bringing new challenges. Today's data acquisition systems should perform analysis in real time, work with large amounts of analog data, and make decisions based on those results. The importance of a robust, real-time, decision-making, signal-processing system FPGA platforms the best fit for many such applications. Designers of DAQ systems need to consider scalability, portability, and stable operation. At this session, we will explore the main challenges and best practices in data-logging system design, particularly in the LabVIEW environment. The webinar examines the underlying implementation of an object-oriented approach to application design, DAQ tips and tricks for FPGA platforms, and an object-oriented programming architecture for real-time and host applications. The session also explores several case studies of developed DAQ systems, showing the main challenges faced and the solutions implemented in the projects.

Register at: Above URL.

Grant Opportunities

National Science Foundation

Grant Program: Information and Intelligent Systems (IIS): Core Programs

Agency: National Science Foundation NSF 17-572

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17572/nsf17572.htm>

Brief Description: CISE's Division of Information and Intelligent Systems (IIS) supports research and education projects that develop new knowledge in three **core programs**:

- The Cyber-Human Systems (CHS) program;
- The Information Integration and Informatics (III) program; and
- The Robust Intelligence (RI) program.

Proposals in the area of computer graphics and visualization may be submitted to any of the three core programs described above.

Proposers are invited to submit proposals in three project classes, which are defined as follows:

- Small Projects - up to \$500,000 total budget with durations up to three years;
- Medium Projects - \$500,001 to \$1,200,000 total budget with durations up to four years; and
- Large Projects - \$1,200,001 to \$3,000,000 total budget with durations up to five years.

A more complete description of the three project classes can be found in Section II. *Program Description* of this document.

Awards: Standard Grants. **Anticipated Funding Amount:** \$100,000,000

Letter of Intent: Not Required

Proposal Submission Due Date:

September 20, 2017 - September 27, 2017

MEDIUM Projects

September 20, 2017 - September 27, 2017

LARGE Projects

November 01, 2017 - November 15, 2017

SMALL Projects

Contacts: William S. Bainbridge, Point of Contact, Cyber-Human Systems (CHS), 1125, telephone: (703) 292-8930, email: wbainbri@nsf.gov

- James Donlon, Point of contact, Robust Intelligence (RI), 1122, telephone: (703) 292-8074, email: jdonlon@nsf.gov
- Ephraim P. Glinert, Point of Contact, Cyber-Human Systems (CHS), 1125, telephone: (703) 292-8930, email: eglinert@nsf.gov

- Tatiana Korelsky, Point of Contact, Robust Intelligence (RI), 1125, telephone: (703) 292-8930, email: tkorelsk@nsf.gov

Grant Program: Computing and Communication Foundations (CCF): Core Programs

Agency: National Science Foundation NSF 17-571

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17571/nsf17571.htm>

Brief Description: CISE's Division of Computing and Communication Foundations (CCF) supports research and education projects that develop new knowledge in three core programs:

- The Algorithmic Foundations (AF) program;
- The Communications and Information Foundations (CIF) program; and
- The Software and Hardware Foundations (SHF) program.

Proposers are invited to submit proposals in two project classes, which are defined as follows:

- Small Projects - up to \$500,000 total budget with durations up to three years; and
- Medium Projects - \$500,001 to \$1,200,000 total budget with durations up to four years.

A more complete description of the two project classes can be found in section II. *Program Description* of this document.

CCF proposals must be in the Small or Medium classes only.

Awards: Standard Grants. **Anticipated Funding Amount:** \$100,000,000

Letter of Intent: Not Required

Proposal Submission Due Date:

September 20, 2017 - September 27, 2017

MEDIUM

November 01, 2017 - November 15, 2017

SMALL

Contacts: Almadena Y. Chtchelkanova, Point of Contact, Software and Hardware Foundations (SHF), 1115, telephone: (703) 292-8910, email: achtchel@nsf.gov

- Tracy Kimbrel, Point of Contact, Algorithmic Foundations (AF), 1115, telephone: (703) 292-8910, email: tkimbrel@nsf.gov
- Phillip Regalia, Point of Contact, Communications and Information Foundations (CIF), 1115, telephone: (703) 292-8910, email: pregalia@nsf.gov

Grant Program: Computer and Network Systems (CNS): Core Programs

Agency: National Science Foundation NSF 17-570

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17570/nsf17570.htm>

Brief Description: CISE's Division of Computer and Network Systems (CNS) supports research and education projects that develop new knowledge in two core programs:

- Computer Systems Research (CSR) program; and
- Networking Technology and Systems (NeTS) program.

Proposers are invited to submit proposals in three project classes, which are defined as follows:

- Small Projects - up to \$500,000 total budget with durations up to three years;
- Medium Projects - \$500,001 to \$1,200,000 total budget with durations up to four years; and
- Large Projects - \$1,200,001 to \$3,000,000 total budget with durations up to five years.

CSR proposals must be in the Small or Medium classes only; NeTS proposals may be in the Small, Medium, or Large class.

A more complete description of the three project classes can be found in Section II. *Program Description* of this document.

Awards: Standard Grants. **Anticipated Funding Amount:** \$60,000,000

Letter of Intent: Not Required

Proposal Submission Due Date:

September 20, 2017 - September 27, 2017

MEDIUM Projects

September 20, 2017 - September 27, 2017

LARGE Projects

November 01, 2017 - November 15, 2017

SMALL Projects

Contacts: Jack Brassil, NeTS Program Director, 1175, telephone: (703) 292-8950, email: jbrassil@nsf.gov

- Darleen L. Fisher, NeTS Program Director, 1175, telephone: (703) 292-8950, email: dlfisher@nsf.gov
 - Samee U. Khan, CSR Program Director, 1175, telephone: (703) 292-8950, email: skhan@nsf.gov
 - Sandip Kundu, CSR Program Director, 1175, telephone: (703) 292-8950, email: skundu@nsf.gov
 - Mimi McClure, CSR Associate Program Director, 1175, telephone: (703) 292-8950, email: mmcclure@nsf.gov
-

Grant Program: Joint DMS/NIGMS Initiative to Support Research at the Interface of the Biological and Mathematical Sciences (DMS/NIGMS)

Agency: National Science Foundation NSF 17-569

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17569/nsf17569.htm>

Brief Description: The Division of Mathematical Sciences (DMS) in the Directorate for Mathematical and Physical Sciences (MPS) at the National Science Foundation (NSF) and the National Institute of General Medical Sciences (NIGMS) at the National Institutes of Health (NIH) plan to support research in mathematics and statistics on questions in the biological and biomedical sciences. Both agencies recognize the need for promoting research at the interface between the mathematical sciences and the life sciences. This program is designed to encourage new collaborations, as well as to support existing ones.

Awards: Standard Grants. **Anticipated Funding Amount:** \$5,000,000

Letter of Intent: Not Required

Proposal Submission Due Date: September 01, 2017 - September 18, 2017

Contacts: Mary Ann Horn, Program Director, NSF/DMS, telephone: (703) 292-4879, email: mhorn@nsf.gov

- Nandini Kannan, Program Director, NSF/DMS, telephone: (703) 292-8104, email: nakannan@nsf.gov
 - Rosemary Renaut, Program Director, NSF/DMS, telephone: (703) 292-2112, email: rrenaut@nsf.gov
-

Grant Program: Advanced Technological Education (ATE)

Agency: National Science Foundation NSF 17-568

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17568/nsf17568.htm#elig>

Brief Description: With an emphasis on two-year colleges, the Advanced Technological Education (ATE) program focuses on the education of technicians for the high-technology fields that drive our nation's economy. The program involves partnerships between academic institutions and industry to promote improvement in the education of science and engineering technicians at the undergraduate and secondary school levels. The ATE program supports curriculum development; professional development of college faculty and secondary school teachers; career pathways; and other activities. The program invites research proposals that advance the knowledge base related to technician education. It is expected that projects be faculty driven and that courses and programs are credit bearing although materials developed may also be used for incumbent worker education.

The ATE program encourages partnerships with other entities that may impact technician education. For example, with

- the National Institute of Standards and Technology (NIST) Manufacturing Extension Partnerships (MEPs) <http://www.nist.gov/mep/index.cfm> as applicable to support technician education programs and the industries they serve;
- Manufacturing USA Institutes <https://manufacturing.gov/nnmi-institutes/> and Investing in Manufacturing Communities of Practice (IMCPs) <https://www.eda.gov/imcp/> addressing workforce development issues (also see DCL [NSF 16-007](#)); and
- NSF Industry & University Cooperative Research Program (I/UCRC) awardees. <https://www.nsf.gov/eng/iip/iucrc/>.

The ATE program encourages proposals from Minority Serving Institutions and other institutions that support the recruitment, retention, and completion of students underrepresented in STEM in technician education programs that award associate degrees. NSF is particularly interested in proposals from all types of Minority Serving Institutions (including Hispanic Serving Institutions, Historically Black Colleges and Universities, Tribal Colleges and Universities, and Alaska Native and Native Hawaiian Serving Institutions) where the proportion of underrepresented students interested in advanced technology careers is growing.

Awards: Standard Grants. **Anticipated Funding Amount:** \$59,000,000

Letter of Intent: Not Required

Proposal Submission Due Date: October 05, 2017

Contacts: . Celeste Carter, Lead Program Director, DUE, 830 S, telephone: (703) 292-4651, email: yccarter@nsf.gov

- David B. Campbell, Lead Program Director, DRL, 885 S, telephone: (703) 292-5093, email: dcampbel@nsf.gov

Grant Program: Innovative Technology Experiences for Students and Teachers (ITEST)

Agency: National Science Foundation NSF 17-565

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17565/nsf17565.htm>

Brief Description: As the nation continues to expand the horizon of opportunities and possibilities through advances in science, technology, engineering and mathematics (STEM), the need for a more diverse and well-prepared STEM workforce is also expanding¹. The challenge of preparing citizens for the expanding workforce and the changing workplace environments calls for new innovations in STEM education². ITEST is a research and development program that supports projects to promote PreK-12 student interests and capacities to participate in the STEM and information and communications technology (ICT) workforce of the future. The ITEST program supports research on the design, development, implementation, and selective spread of innovative strategies for engaging students in technology-rich experiences that: (1) increase student

awareness of STEM occupations; (2) motivate students to pursue appropriate education pathways to STEM occupations; or (3) develop disciplinary-based knowledge and practices, or promote critical thinking, reasoning skills, or communication skills needed for entering STEM workforce sectors. ITEST projects may adopt an interdisciplinary focus that includes multiple STEM disciplines, focus on a single discipline, or focus on one or more sub-disciplines. The ITEST program supports projects that provide evidence for factors, instructional designs, and practices in formal and informal learning environments that broaden participation of students from underrepresented groups in STEM fields and related education and workforce domains. Projects that actively engage business and industry partners to better ensure that PreK-12 experiences foster the knowledge and skill-sets needed for emerging STEM occupations are strongly encouraged.

Awards: Standard Grants. **Anticipated Funding Amount:** \$20,000,000. Depending on the availability of funds, ITEST anticipates making approximately 2-4 Exploratory awards with durations up to two years and total budgets up to \$400,000 each, 6-12 Strategies awards with durations up to three years and total budgets up to \$1,200,000 each, and 1-2 SPrEaD (Successful Project Expansion and Dissemination) awards with durations of three to five years and total budgets up to \$2,000,000 each.

Letter of Intent: Not Required

Proposal Submission Due Date: September 05, 2017

Contacts: Address general questions to, telephone: (703) 292-8628, email: DRLITEST@nsf.gov

- David L. Haury, telephone: (703) 292-5102, email: dhaury@nsf.gov
 - Amy L. Baylor, telephone: (703) 292-5126, email: abaylor@nsf.gov
 - David B. Campbell, telephone: (703) 292-5093, email: dcampbel@nsf.gov
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National Institutes of Health

Grant Program: Notice of Intent to Publish a Funding Opportunity Announcement for Point of Care Technologies Research Network Centers (U54)

Agency: National Institutes of Health NOT-EB-17-004

RFP Website: <https://grants.nih.gov/grants/guide/notice-files/NOT-EB-17-004.html>

Brief Description: The National Institute of Biomedical Imaging and Bioengineering (NIBIB), with the National Heart, Lung, and Blood Institute (NHLBI), the National Institute on Aging (NIA), the Office of Behavioral and Social Sciences Research (OBSSR), National Center for Complementary and Integrative Health (NCCIH) and the Fogarty International Center (FIC) intends to reissue RFA-EB-11-002 , Point-of-Care Technologies Research Network (POCTRN), with modifications. POCTRN's purpose is to drive the development and/or application of appropriate point-of-care technologies through collaborative efforts that merge scientific and technological capabilities with clinical need. The POCTRN Research Centers will create a national research network that works to build expertise in the development and/or application of integrated point-of-care systems that address unmet clinical needs in point-of-care testing through the creation of multidisciplinary partnerships. This Notice is being provided to allow potential applicants sufficient time to develop meaningful collaborations and responsive projects. The FOA is expected to be published in Summer 2017 with an expected application due date in Fall 2017.

Inquiries: Please direct all inquiries to:

Tiffani Bailey Lash, PhD

National Institute of Biomedical Imaging and Bioengineering (NIBIB)

Telephone: 301-451-4778
Email: baileyti@mail.nih.gov

Grant Program: Biomedical Technology Research Resource (P41)

Agency: National Institutes of Health PAR-17-316

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-316.html>

Brief Description: This Funding Opportunity Announcement (FOA) will support Biomedical Technology Research Resources (BTRRs) in a variety of areas of biomedical science. (BTRR and Resource are used interchangeably throughout this FOA.) The program has recently been evaluated and the final report is available on the NIGMS BTRR home page (<https://publications.nigms.nih.gov/btrrs/searchresults.asp>). Several important changes have been made to simplify and clarify the application and review process, and to improve the flexibility of individual Resources and the program as a whole. The program continues to focus on two goals: the development of enabling technologies, and sustainable access to those technologies for the research community. These goals are addressed through three components of each center: Technology Research and Development (TR&D), Driving Biomedical Projects (DBPs), and Community Engagement (CE).

Technology Research and Development (TR&D) is the central activity of a BTRR. Research teams create critical, often unique, technologies at the forefront of their respective fields. In support of that mission, the Resources are structured to foster two kinds of collaborations: dynamic, short-term Technology Development Partnerships (Partnerships) with other technology developers, where appropriate, will enable the Resource to adopt and incorporate emerging capabilities in rapidly evolving fields. BTRR investigators must be able to recognize significant parallel contributions by other technology developers, determine whether collaboration is appropriate, and if so, establish mutually beneficial partnerships. While a BTRR is expected to operate at the leading edge of a technology area, it is important to recognize and exploit advances emerging from other academic research groups.

Similarly, Driving Biomedical Projects (DBPs) are biomedical research test-beds that allow BTRR investigators to test nascent technologies in the context of challenging problems in basic, translational, and clinical research, while providing biomedical researchers with the earliest possible access to these emerging tools. A deep understanding of needs and opportunities in the relevant areas of biomedical research is an essential prerequisite for all technology development. In a BTRR, this understanding is most clearly expressed through successful engagement of those researchers best positioned to benefit from early access to emerging tools.

BTRR investigators are expected to actively engage both researchers who are developing technologies relevant to the Resource's mission, and the scientists in the community whose research may benefit from these emerging technologies. However, the BTRR should not merely integrate and offer access to technologies developed elsewhere. A BTRR is expected to develop leading technologies that will significantly impact a broad community of biomedical researchers, and through leadership within the relevant communities, support the integration of those technologies into the larger context of the relevant field. A successful BTRR will establish and maintain a leading role in the development and early application of important enabling technologies. NIGMS expects that most Research Resources will not be renewed beyond three cycles.

The relatively stable and substantial support of a BTRR allows researchers to address the full range of technology development, including early stage, high risk projects, iterative improvement in the context of challenging real-world problems, and the refinement and

optimization of technologies to improve performance and promote the broadest possible dissemination and adoption. The success of BTRR-supported technology development is ultimately measured by adoption in the broader biomedical research community. It is essential that technology development be carried through to completion, including the optimization and dissemination of tools with strong potential for continued impact.

The technology development mission of a BTRR should be characterized by a focus on genuine completion of the development cycle for each promising technology, in a timely manner, and a drive toward obsolescence of the BTRR through ubiquity of the developed technology within the community.

Awards: The maximum budget that may be requested is \$800,000 in recurring direct costs, excluding equipment. Applications requesting more than this amount in recurring costs will not be reviewed. Because of the technology-intensive nature of these Resources, there may be a need to acquire specialized equipment. Equipment requests are expected to vary with the nature of the technology development projects proposed. Funds for such specialized equipment may be requested in excess of the \$800,000 operating limit if well justified.

Letter of Intent: Not required

Deadline: September 25, 2017; January 25, 2018; May 25, 2018; January 25, 2019; May 25, 2019; and January 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.

Grant Program: Pre-application for a Biomedical Technology Research Resource (X02)

Agency: National Institutes of Health PAR-17-315

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-315.html>

Brief Description: This announcement encourages pre-applications for the creation of national Biomedical Technology Research Resources (BTRRs). These Resources develop new or improved technology driven by the needs of basic, translational, and clinical researchers. The BTRRs are charged to make their technologies available to the biomedical research community, to train members of this community in the use of the technologies, and to disseminate both the technologies and the Resource's experimental results broadly.

The X02 pre-application is the recommended first step in the application process for a new BTRR application. Potential applicants should read both FOAs. A pre-application can help applicants focus and refine their ideas and determine whether a BTRR is the appropriate means to support the work they have in mind. Investigators whose X02 pre-applications are judged to be meritorious and programmatically relevant will be notified of the opportunity to submit a full BTRR application under [PAR-17-316](#).

The X02 pre-application is the recommended first step in the application process for a new Biomedical Technology Research Resource (BTRR) application. Investigators whose X02 pre-applications are judged to be meritorious and programmatically relevant will be notified of the opportunity to submit a full BTRR application under [PAR-17-316](#) Potential applicants should read both the X02 and P41 FOAs. The National Institute of General Medical Sciences (NIGMS) uses the P41 mechanism to support BTRRs in a variety of areas of biomedical science. (BTRR and Resource are used interchangeably throughout this text.)

The NIGMS BTRR program has recently been evaluated and the final report is available on the NIGMS BTRR web page (<https://publications.nigms.nih.gov/btrrs/searchresults.asp>). Several important changes have been made to simplify and clarify the application and review process, and

to improve the flexibility of individual Resources and the overall program. The program continues to focus on two goals: the development of enabling technologies, and sustainable access to those technologies for the research community. These goals are addressed through three components of each center: Technology Research and Development (TR&D), Driving Biomedical Projects (DBPs), and Community Engagement (CE).

New applicants are strongly encouraged to submit a pre-application in response to this announcement. The pre-application process provides feedback regarding appropriateness for this program and competitiveness of a potential application.

Awards: No awards will be made in response to this announcement.

Letter of Intent: Not required

Deadline: August 15, 2017; March 15, 2018; July 17, 2018; March 15, 2019; July 15, 2019; and March 15, 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: FY2018 Basic Research Challenge (BRC) Program

Agency: Department of Defense ONR N00014-17-S-BA13

Website: <https://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements>

Brief Description: Several Research Topics in Basic Research: Potential fundamental science questions resolved by this BRC would be (1) is quantum wavefunction collapse an objective feature of quantum systems?, (2) are quantum models beyond the Schrodinger equation necessary?, (3) are quantum translational and rotational friction experimentally observable?, (4) are there short-range corrections to the gravitational constant G ?, and (5) how does the Casimir force scale from the nano- to microscale, and how/why does it change from attractive to repulsive? The technology developed to address these questions will have the added benefit of realizing a variety of novel sensors. Research Concentration Area: (1) quantum foundations – experimentally explore quantum/classical boundary, test for quantum translational and rotational friction; (2) quantum information - approaches for leveraging spins and levitated particles for information processing; (3) precision measurement - interrogate gravity corrections and Casimir forces at short length scales; (4) thermodynamics/statistical mechanics - exquisite control to constrain dynamics and then follow microscopic trajectories to build up ensemble averages; and (5) material spectroscopy - levitating objects removes substrate induced effects in performing spectroscopy and microscopy on materials, which is especially crucial for nanomaterials.

Also includes:

This BRC program requires a multidisciplinary integrated computational, experimental, and multi-scale characterization effort including, but not limited to, (1) high-throughput CALPHAD computations of phase equilibria/non-equilibrium solidification; (2) high-throughput experiments using materials libraries with microstructural gradients; (3) deformation, strengthening modeling and validation; (4) multi-scale microstructural characterization; (5) phase stability/phase transformation kinetics; (6) lattice distortions and dislocations; (7) materials synthesis/characterization; and (8) multi-scale mechanics. Possible performers would most likely be a small research group with interdisciplinary expertise in quantum chemistry,

materials science, materials informatics, interfacial and surface science, mechanics, 2D, 3D, and 4D atomistic computational simulations and modeling, statistical mechanics, molecular dynamics, phase-field modeling, non-equilibrium processing, CALPHAD and multi-scale thermodynamic and kinetic computational tools. These multi-scale modelling efforts would be validated and verified using state-of-the-art atomic-scale analytical tools.

Awards: Standard Grants

Proposal Deadline:

White Papers: Friday, 18 August 2017; Full Proposals: Friday, 17 November 2017

Contact Information:

Dr. Reginald Williams Basic Research Challenge (BRC) Program Manager Code 03R Office of Naval Research 875 North Randolph Street Arlington VA 22203-1995 reginald.g.williams@navy.mil

Grant Program: CENTER OF EXCELLENCE: Trusted Human-Machine Teaming

Agency: Department of Defense AFOSR

Website: <http://www.wpafb.af.mil/Welcome/Fact-Sheets/Display/Article/842050/>

Brief Description: The Air Force Office of Scientific Research (AFOSR) seeks unclassified proposals from educational institutions in the United States for a University Center of Excellence (UCoE) in in Trusted Human-Machine Teaming. Proposals must not contain any proprietary information. This center is a joint project between the Air Force Office of Scientific Research and the Air Force Research Laboratory, Airman Systems Directorate (AFRL/RH), referred to collectively as “we, our, or us” in this announcement. The center will extend the research capabilities of the Air Force Research Laboratory, and provide opportunities for a new generation of United States scientists and engineers to address the basic research needs of the Air Force.

We will consider proposals for up to five (5) years with a three-year (3) base period and a two-year (2) option period. of Interest across the lifespan of an individual with ASD, are of particular importance to the ARP.

Awards: Up to \$5,000,000

Proposal Deadline: August 18, 2017

Contact Information:

DR. BENJAMIN KNOTT, AFOSR/RTA2

Trust and Influence Program

Telephone: (703) 696-1142

Email: benjamin.knott.2@us.af.mil

DR. ERICA JOHNSON, AFRL/711 HPW/RHCP

Applied Neuroscience Branch

Telephone: (937) 938-3569

Email: erica.johnson.7@us.af.mil

Grant Program: FY2018 Vannevar Bush Faculty Fellowship

Agency: Department of Defense ONR N00014-17-S-F015

Website: <https://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements>

Brief Description: The Vannevar Bush Faculty Fellowship (VBFF) program is sponsored by the Basic Research Office, Office of the Assistant Secretary of Defense for Research and Engineering (ASD (R&E)). VBFF supports innovative basic research within academia, as well as opportunities intended to develop the next generation of scientists and engineers for the defense workforce.

The Office of Naval Research (ONR) manages the VBFF program for ASD (R&E). To accomplish this task, ONR is soliciting proposals for the VBFF program through this FOA. This FOA seeks distinguished researchers for the purpose of conducting innovative basic research in areas of interest to the DoD and fostering long-term relationships between the VBFF Fellows and the DoD. As defined by the DoD, basic research is “systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind. It includes all scientific study and experimentation directed toward increasing fundamental knowledge and understanding in those fields of the physical, engineering, environmental, and life sciences related to long-term national security needs. It is farsighted high payoff research that provides the basis for technological progress.” (http://comptroller.defense.gov/Portals/45/documents/fmr/Volume_02b.pdf) The DoD’s basic research program invests broadly in many scientific fields to ensure that it has early cognizance of new scientific knowledge. VBFF is oriented towards bold and ambitious “blue sky” research that may lead to extraordinary outcomes such as revolutionizing entire disciplines, creating entirely new fields, or disrupting accepted theories and perspectives.

Awards: It is anticipated that awards will be made in the form of grants to U.S. institutions of higher education (universities). It is anticipated that the maximum award will be \$3 million per five years, with the actual amount contingent on availability of funds, the specific topic, and the scope of the proposed work.

Proposal Deadline:

Your registration must be completed no later than
Monday, 14 August 2017 at 11:59 PM Eastern Daylight Time

White Paper Deadline

Your white paper must be received no later than
Wednesday, 16 August 2017 at 11:59 PM Eastern Daylight Time

Inquiries and Questions Deadline

White Papers: Wednesday, 26 July 2017

Business related: Wednesday, 3 January 2018

Invited Proposal Deadline

Your proposal must be received no later than
Monday, 8 January 2018 at 11:59 PM Eastern Standard Time

Contact Information:

Dr. Ellen Livingston

VBFF Program Manager

Office of Naval Research Code 03R

E-mail Address: ellen.s.livingston@navy.mil

Grant Program: Autism Research Program (ARP) Idea Development Award

Agency: Department of Defense

W81XWH-17-ARP-IDA Idea Development Award

W81XWH-17-ARP-CTRA Clinical Translation Award

Website:

Idea Development Award: <http://cdmrp.army.mil/funding/pa/FY17-ARP-IDA.pdf>

Clinical Translation Award: <http://cdmrp.army.mil/funding/pa/FY17-ARP-CTRA.pdf>

Brief Description: The FY17 ARP Idea Development Award seeks applications from all areas of basic and preclinical research and strongly encourages applications that address the critical needs of the ASD community in one or more of the following areas: • Assessment of novel therapeutics

using valid preclinical models • Environmental risk factors • Mechanisms of heterogeneous clinical expression of ASD • Mechanisms underlying conditions co-occurring with ASD (e.g., sleep disturbances, gastrointestinal issues, aggression, depression, anxiety, attention deficit, seizures) • Factors promoting success in key transitions to independence for individuals living with ASD • Development of healthcare provider-focused training or tools to improve healthcare delivery for individuals with ASD, particularly in adulthood • Cultural factors in treatment efficacy, delivery, and access to services Applications that focus on the examination of gender effects in any of the Areas of Interest stated above, as well as those studies investigating any of the Areas of Interest across the lifespan of an individual with ASD, are of particular importance to the ARP.

Awards: The anticipated direct costs budgeted for the entire period of performance for an FY17 ARP Idea Development Award will not exceed \$500,000.

Proposal Deadline:

Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), July 26, 2017

· Invitation to Submit an Application: September 1, 2017

· Application Submission Deadline: 11:59 p.m. ET, October 19, 2017

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

Grant Program: FY2018 Office of Naval Research (ONR) Young Investigator Program (YIP)

Agency: Department of Defense Office of Naval Research N00014-17-S-F014

Website: www.onr.navy.mil

Brief Description: The Office of Naval Research (ONR) is interested in receiving proposals for its Young Investigator Program (YIP). ONR's Young Investigator Program (YIP) seeks to identify and support academic scientists and engineers who are in their first or second full-time tenure-track or tenure-track-equivalent academic appointment, have begun their first appointment on or after 31 December 2012, and who show exceptional promise for doing creative research. The objectives of this program are to attract outstanding faculty members of Institutions of Higher Education (hereafter also called "universities") to the Department of the Navy's Science and Technology (S&T) research program, to support their research, and to encourage their teaching and research careers. Proposals addressing research areas (as described in the ONR Science and Technology Department section of ONR's website at www.onr.navy.mil) which are of interest to ONR program officers will be considered. Contact information for each division (a subgroup of an S&T Department) is also listed within the S&T section of the website.

Applicants are STRONGLY ENCOURAGED to contact the appropriate Program Officer who is the point of contact for a specific technical area to discuss their research ideas. A list of most Program Officers and their contact information can be found at: <http://www.onr.navy.mil/en/ScienceTechnology/Contacts.aspx> Brief informal pre-proposals may be submitted to facilitate these discussions but are not required. Such discussions can clarify the content and breadth of the priority research areas and enhance the match between a subsequent proposal and Department of the Navy research needs. Please allow adequate time for such discussions with the ONR Program Officer.

An individual wishing to apply for a Young Investigator award must submit a research proposal and at least one letter of support through the appropriate university officials. Refer to Section V "Evaluation Criteria" regarding the importance of the letter(s) of support in the overall evaluation criteria and Section IV "Application and Submission Information" regarding its content. Applications received without at least one letter of support will be considered incomplete and will

not be considered for award. The research proposal should follow the format described in FOA Section IV entitled, "Application and Submission Information."

Awards: Applicants may request up to \$170,000 per year for three (3) years. These funds may be budgeted against any reasonable costs related to conducting the proposed research, for example, salary for the Young Investigator, graduate student support, supplies, and applicable indirect cost.

Proposal Deadline: September 15, 2017

Contact Information:

Dr. Reginald G. Williams YIP Program Manager Code 03R Office of Naval Research 875 North Randolph Street - Suite 660 Arlington, VA 22203-1995 reginald.g.williams@navy.mil

Department of Energy

Grant Program: Photovoltaics (PV) Innovation Roadmap

Agency: Department of Energy DE-FOA-0001764

Website: <https://eere-exchange.energy.gov/default.aspx#Foaldf51a67d6-5302-4984-8083-6797aca39e1d>

Brief Description: The purpose of this RFI is to solicit feedback from industry, academia, research laboratories, government agencies, and other stakeholders on issues related to PV technology pathways in order to inform SunShot's strategic planning. We greatly appreciate your time and contribution to enhance the relevance and timeliness of federally funded research. This is solely a request for information and not a Funding Opportunity Announcement (FOA). EERE is not accepting applications.

Proposal Deadline: July 31, 2017

Contact Information:

PVRD@ee.doe.gov

RFI questions

Grant Program: Technology Development to Ensure Environmentally Sustainable CO2 Injection Operations

Agency: Department of Energy DE-FOA-0001725

Website:

https://www.fedconnect.net/FedConnect/PublicPages/PublicSearch/Public_Opportunities.aspx

Brief Description: This FOA seeks applications on research to develop techniques, tools, and methodologies that improve detection and assessment of CO2 stored in the target reservoir. Research products developed under this FOA are expected to include monitoring tools and techniques, as well as validation of models and modeling techniques. Successful technologies developed under this FOA will decrease the operator's financial burden associated with long-term monitoring by providing them the capability to assess the position of the CO2 plume in the target reservoir with greater certainty throughout the life cycle of the project (i.e., active- and post-injection).

Award: Up to \$2,000,000

Proposal Deadline: August 11, 2017

Contact Information:

K. Young 412-386-4402 bethan.young@netl.doe.gov

Grant Program: Notice of Intent (Noi) To Issue a Request For Applications (RFA) Entitled "Fiscal Year 17 Biomass Research And Development Initiative (BRDI)"

Agency: Department of Energy DE-FOA-0001711

Website: <https://eere-exchange.energy.gov/>

Brief Description: The U.S. Department of Agriculture (USDA), National Institute of Food and Agriculture (NIFA) in conjunction with the U.S. Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy (EERE), Bioenergy Technologies Office (BETO) intends to issue a Request for Applications (RFA) entitled "Fiscal Year 17 Biomass Research and Development Initiative (BRDI)." For fiscal year (FY) 2017, the BRDI program requires that funded projects address at least one (1) of the following three (3) legislatively mandated technical (topic) areas:

1) Feedstocks development – The intent of this Topic Area is to address research, development, and demonstration (RD&D) activities regarding feedstocks and feedstock logistics (including harvest, handling, transport, preprocessing, and storage) relevant to production of raw materials for conversion to biofuels and biobased products. The BRDI program is designed to support near-term commercial systems. Projects should emphasize development and optimization of existing feedstocks that will be available for testing and demonstration during the life of the project. Proposals that include breeding or genetic improvement of feedstocks should reconcile this work with the Program’s emphasis on near-term impacts.

2) Biofuels and biobased products development – The intent of this Topic Area is to address RD&D activities to support (i) development of diverse cost-effective, innovative technologies for the use of cellulosic biomass in the production of biofuels, bioenergy, and biobased products; and, (ii) product diversification through technologies relevant to the production of a range of biobased products (including chemicals, animal feeds, and cogeneration power) that potentially can increase the feasibility of fuel production in a biorefinery.

3) Biofuels development analysis – The intent of this Topic Area is to apply systems evaluation methods that can be used to optimize system performance and market potential and to quantify the project’s impact on sustainability; therefore, successful applications will consider the lifecycle (cradle-to-grave) impacts including environmental, social, and economic implications that are attributable to the project. Successful projects should include these sustainability data in engineering process models and be used over the life of the project to improve the system and quantify sustainability impacts.

NIFA and EERE plan to issue a RFA titled “Fiscal Year 17 Biomass Research and Development Initiative” in mid February 2017 via the EERE Exchange website (<https://eere-exchange.energy.gov/default.aspx>).

Contact Information:

- EERE-ExchangeSupport@hq.doe.gov

For all responses and questions regarding this RFI.

Grant Program: Request For Information (RFI): Clean Water Technologies

Agency: Department of Energy DE-FOA-0001676

Website: <https://eere-exchange.energy.gov/default.aspx#Foald46380d32-05f4-43ed-96a7-9a4e43151674>

Brief Description: EERE’s Advanced Manufacturing Office (AMO) partners with industry, small business, universities, and other stakeholders to identify and invest in emerging technologies with the potential to create high-quality domestic manufacturing jobs and enhance the global competitiveness of the United States. Through this Request for Information, EERE, on behalf of AMO, seeks feedback on technologies with the potential for early stage research and development

(R&D) that if successfully advanced could impact the cost-effective and energy efficient availability of clean water processed from a variety of sources such as surface water, ground water, brackish water, seawater, wastewater and produced water for a range of applications including municipal drinking water, agricultural uses, and industrial needs.

Responses to this RFI must be submitted electronically to AMOCleanWater@ee.doe.gov no later than 5:00 pm (EDT) on July 28, 2017. Responses must be provided as attachments to an email. This RFI is not a Funding Opportunity Announcement (FOA); therefore, EERE is not accepting applications at this time. EERE may issue a FOA in the future based on or related to the content and responses to this RFI; however, EERE may also elect not to issue a FOA. There is no guarantee that a FOA will be issued as a result of this RFI. Responding to this RFI does not provide any advantage or disadvantage to potential applicants if EERE chooses to issue a FOA regarding the subject matter. Final details, including the anticipated award size, quantity, and timing of EERE funded awards, will be subject to Congressional appropriations and direction.

Document: [Request for Information \(RFI\) - Clean Water Technologies - DE-FOA-0001676](#)

- **Contact Information:** AMOCleanWater@ee.doe.gov

For all responses and questions regarding this RFI.

- EERE-ExchangeSupport@hq.doe.gov

For technical questions concerning the Exchange website.

NASA

Grant Program: ROSES 2017: Planetary Science and Technology Through Analog Research

Agency: NASA NNH17ZDA001N-PSTAR

Website:

<https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={8C6B2230-5E5F-B315-19E9-A15B5C091722}&path=open>

Brief Description: NASA analog missions research addresses the need for integrated interdisciplinary field experiments as an integral part of preparation for future human and robotic missions. Future planetary research associated with solar system exploration requires the development of relevant, miniaturized instrumentation capable of extensive operations on lunar, asteroid, and planetary surfaces throughout the Solar System. To this end, and in collaboration with other Directorates at NASA and other agencies, this Planetary Science and Technology Through Analog Research (PSTAR) program solicits proposals for investigations focused on exploring the relevant environments on Earth in order to develop a sound technical and scientific basis to conduct planetary research on other solar system bodies. The PSTAR program is a science-driven exploration program that is expected to result in new science and operational/technological capabilities to enable the next generation of planetary exploration. Proposals must demonstrate fidelity to at least two of the following three objectives:

(1) Science: PSTAR seeks science investigations designed to further planetary research in terrestrial extreme environments that may be analogous to those found on other planets, past or present. Of particular interest are investigations that increase our understanding of the limits of and constraints (or lack thereof) on life in extreme environments and lead to a better understanding of how to seek, identify, and characterize life and life-related chemistry that may exist or have existed on other solar system bodies. Proposals which claim science fidelity are expected to result in publishable-quality planetary or earth science results.

(2) Science Operations: PSTAR seeks systems-level terrestrial field campaigns that are conducted with complete systems and in a manner that approximates operations during an actual planetary

mission, providing an opportunity to understand the performance, capabilities, and efficiencies associated with the tested systems, while enabling human participants to gain operational experience with those systems in the field. Fidelity in this area means that the constraints placed on the execution of science tasks in the field are functionally similar to those of an actual mission, enabling the development, testing, and validation of new concepts of operations that may impact the design of surface infrastructure or ground support.

(3) Technology: PSTAR seeks the testing and application of technologies that support science investigations, particularly those that enable remote searches for, and identification of, life and life-related chemistry in extreme environments (including lunar and planetary surfaces).

Awards: Various

Proposal Deadline: PSTAR17 Step-1 Proposals Due: July 25, 2017

Contact: Dr. Max Bernstein sara@nasa.gov

Grant Program: ROSES 2017: New (Early Career) Investigator Program

Agency: NASA NNH17ZDA001N-NIP

Website:

<https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={344D6EF1-D56F-60FD-505E-A31035E2B19C}&path=open>

Brief Description: The New (Early Career) Investigator Program (NIP) in Earth Science is designed to support outstanding scientific research and career development of scientists and engineers at the early stage of their professional careers. The program aims to encourage innovative research initiatives and cultivate scientific leadership in Earth system science. The Earth Science Division (ESD) places particular emphasis on the investigators' ability to promote and increase the use of space-based remote sensing through the proposed research. The NIP supports all aspects of scientific and technological research aimed to advance NASA's mission in Earth system science (<http://science.nasa.gov/about-us/sciencestrategy/>). In research and analysis, the focus areas are: • Carbon Cycle and Ecosystems, • Climate Variability and Change, • Water and Energy Cycle, • Atmospheric Composition, • Weather, and • Earth Surface and Interior. In Applied Sciences, the ESD encourages efforts to discover and demonstrate practical uses of NASA Earth science data, knowledge, and technology (see <http://appliedsciences.nasa.gov>). In technological research, the ESD aims to foster the creation and infusion of new technologies into space missions in order to enable new scientific observations of the Earth system or reduce the cost of current observations (see <http://esto.nasa.gov>). The ESD also promotes innovative development in computing and information science and engineering of direct relevance to ESD. See Appendix A.1 for more detailed descriptions of the Focus Areas, themes in applied sciences, and related research topics of high priority to the ESD.

The proposed research project must be led by a single, eligible (see further description below for eligibility) investigator serving as the Principal Investigator (PI). Indeed, this individual must be the only essential team member; no Co-Investigators (Co-Is), paid or unpaid, are permitted. The NIP does not accept proposals with Co-PIs nor two types of PIs, such as Science PI and Institutional PI. Students and postdoctoral fellows may participate as paid team members. The proposed research may include collaborations. See the Guidebook for Proposers at <http://www.hq.nasa.gov/office/procurement/nraguidebook/> for the definitions of Collaborator vs. Co-Investigator and descriptions of China-related restrictions.

To be eligible for an NIP award, proposed PIs must meet the following requirements:

1. Be employed at an institution in the U.S., its territories, or possessions, or the Commonwealth of Puerto Rico, which awards a baccalaureate or advanced degree in a field supporting the objectives

of NASA Earth system studies, or be employed at any nonprofit research institution or other nonprofit organization that performs a significant amount of work in fields of research supporting the objectives of NASA's Earth Science Program. Such organizations could include museums, observatories, Government or nonprofit research laboratories, as well as nonprofit entities in the private sector.

2. Be in tenure- or nontenure-track positions in either teaching or research or both, as long as the employing institution assumes the responsibility of submitting the proposal with the individual as the proposed PI.

3. Despite being more than five years beyond the receipt of their Ph.D. degrees, individuals who have interrupted their careers for reasons such as family leave or serious health problems may also be eligible. These applicants should make a written request for prior concurrence from NASA before the due date for Notices of Intent to propose. NASA will provide a written response within three weeks. Such exception is not intended for individuals who have had successful employment in technical fields in science and engineering, even though the employment is not a direct continuation of their Ph.D. research, nor is it intended for individuals with a recent Ph.D. degree after having already established a successful career in Earth system science and related disciplines.

4. Not hold or have held tenure (or equivalent) on or before the submission deadline of this program.

5. Not be a current or former recipient of the NIP or Presidential Early Career Award for Scientists and Engineers (PECASE) (see further below) award.

Awards: Proposals to the NIP are openly solicited approximately every two years. The anticipated average award is \$80-90K per year for a period of up to three years, subject to satisfactory progress and availability of funds.

Proposal Deadline: NIP17 NOIs Due: July 31, 2017

NIP17 Proposals Due: August 31, 2017

Contact: Lin Chambers

Earth Science Division

Science Mission Directorate

NASA Headquarters

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National Endowment of Humanities

Grant Program: Summer Awards

Agency: National Endowment of Humanities

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

Brief Description: Summer Stipends support individuals pursuing advanced research that is of value to humanities scholars, general audiences, or both. Eligible projects usually result in articles, monographs, books, digital materials and publications, archaeological site reports, translations, or editions. Projects must not result solely in the collection of data; instead they must also incorporate analysis and interpretation.

Summer Stipends support continuous full-time work on a humanities project for a period of two consecutive months. Summer Stipends support projects at any stage of development.

Awards: \$6,000 stipend.

Proposal Deadline: **September 27, 2017** for Projects Beginning May 2018

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

Streamlyne Update

Research proposals are being successfully submitted through Streamlyne. 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](#)

In addition, most Frequently Asked Question (FAQs) from PIs are posted with answers on the same website as [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
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