

NJIT Research Newsletter

Issue: ORN-2017-12

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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Upcoming Office of Research Events

Save The Date!

Event: Innovation Day Symposium and Presidential Forum (Student Research and Innovation Showcase)

When: April 10, 2017; 9.00 AM – 12.30 PM

Where: Atrium and Ballroom A

Keynote Speaker: William Huffnagle, President, Reconstructive Division at Stryker Orthopaedics
President's Forum: About the Keynote Speaker: William (Bill) Huffnagle is President, Joint Replacement Division at Stryker Orthopaedics. He is responsible for Stryker's transatlantic joint replacement business including hips, knees, robotics and Performance Solutions. Beginning in April 2016, Bill also assumed responsibility for Stryker's Trauson business, a leading implant manufacturer in the Chinese market. Bill started his Stryker career in 1988 as a Howmedica sales representative for the Delaware Valley Branch, and over the next 19 years demonstrated an outstanding track record for growth, and building his market share to over 72%. In 2007, he was promoted to the Delaware Valley Branch Manager role where he led his team to exceed quota with over \$8 million growth each year. In May 2009, Bill was promoted to Vice President and General Manager, Hip Reconstruction for the Orthopaedics Division. Under Bill's leadership, the division launched several exciting new products, including Stryker's ADM X3, the first anatomic mobile bearing hip system, the Modular Dual Mobility (MDM) system, and Accolade II. In May 2011, he was appointed as the first President for the newly formed Reconstructive Division. Bill brings exceptional customer relationship skills, strategic thinking and drive for results to the Division. He has demonstrated the ability to build and develop strong teams and for challenging the status quo to bring new, innovative approaches to drive business growth.

The Innovation Day: Student Research Showcase: The Innovation Day celebrates accomplishments of undergraduate students in research and innovation programs through a poster session. Through several URI programs and innovation competitions, about 100 students

will showcase their 68 research projects with ppt slides on display monitors. Jim Stevenson, sponsor of the TechQuest Innovation competition, will announce the recipients of the TechQuest2017 awards after the Keynote talk at the President's Forum. Please join us to encourage undergraduate students and celebrate their research accomplishments.

Agenda

President's Forum and 2017 NJIT Innovation Day

April 10, 2017

Atrium, Campus Center

9.00 AM - 9.25 AM: Welcome Remarks and Introductions

9.25 AM - 10.25 AM: President's Forum: Keynote Lecture

Mr. William Huffnagle, President, Reconstructive Division, Stryker Orthopaedics

10.25 AM - 10.30 AM: Announcement of Winners of TechQuest Competition: Jim Stevenson

Ballroom A, Campus Center

10.30 AM - 12.30 PM: Student e_Poster and Networking Session

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.

Event: Office of Research Open House and Faculty Research Advisory Board (FRAB) on Streamlyne Grant Management System

When: April 11, 2017; 12.00 PM - 1.00 PM

Where: Ballroom B

Brief Description: Office of Research is pleased to host an Open House jointly with Faculty Research Advisory Board (FRAB) meeting on April 11, 2017 from 12.00 PM to 1.00 PM in Ballroom B, Campus Center. The Open House will focus on the current status and updates on Streamlyne Grant Management System with respect to proposal preparation, internal approvals, and processing of Conflict of Interest and other documentation for submission to external agencies. A submission protocol demo will be presented with the Streamlyne team demonstrating the step-by-step process of proposal submission. Faculty, researchers, and admin staff are invited to join the Open House demo session to learn about ongoing updates and forthcoming initiatives. The following is the agenda of the Open House and FRAB meeting.

- Welcome Remarks and NJIT Research Update : Atam Dhawan
- Proposal Submission Policy and Protocol: Eric Hetherington
- Streamlyne Grant Management System Demo: Streamlyne Team Benefits
- Step-by-Step Process with a Live Demo of Proposal Submission Updates and Forthcoming Initiatives
- Streamlyne Training and Support Infrastructure: Eric Hetherington
- 5. Q&A and Discussion Session
- Adjourn

Light lunch will be available.

Event: Science and Technology Forum: Big Data Analytics: Current and Future Trends

When: April 12, 2017; 2.30 PM – 4.00 PM

Where: Ballroom A

Panel Speakers:

Terry Christiani, Product Marketing Manager, [Microsoft](#)

Kathy Meier-Hellstern, Assistant Vice President, AT&T Advanced Technology Platforms and Architecture

Brief Description: The amount of data in many scientific and societal applications that the government and institutions are collecting are staggering, requiring special techniques to handle them. Experts in the field of Big Data will share their thoughts on how to manage these data, and how to allocate them to maximize the benefit to society. The panel will discuss challenges in big data analytics, and future trends and expectations on continuously increasing the amount of data and our limitations in dealing with it. "Have we reached the limit of too much data and information?"

Bio-Sketch: Terry Christiani is a 10 year veteran in the data analytics technology industry. Starting with the S language at Insightful (now Tibco), Terry built and delivered critical communications plans to educate and drive awareness of the S language in the financial and pharmaceutical sectors worldwide. Subsequently working with the now dominant R language and the rise of big data stores both on premises and in the cloud, she helped drive the growth of Revolution Analytics towards its acquisition by Microsoft. Her role at Microsoft is to oversee outreach to the data science community and create a larger association of individuals and groups dedicated to furthering the use of data analytics across industries with open source tools and platforms. Her programs support users of R, Python, Hadoop, and Spark to build scalable and flexible frameworks for the management and use of data to improve business outcomes.

Kathy Meier-Hellstern is an Assistant Vice President in the AT&T Labs Research organization where she leads the Optimization, Reliability and Customer Analytics Department (ORCA). Kathy joined AT&T Bell Laboratories in 1984, where she served as a performance, reliability and scalability consultant to organizations within AT&T for a variety of telephone, mobile, security and IP services. From 2005-2012, Kathy worked in AT&T Government Solutions, operating a large private network and defining new technologies and services for the network. She returned to AT&T Labs in 2012 in her current capacity. Kathy is responsible for the design and development of AT&T's Next Generation Network Cloud with focus on optimization, performance and reliability and network and customer analytics. Her team designs and implements the optimization algorithms for AT&T's SDN network, and quantifies the performance and reliability for virtualized platforms and services. The team is responsible for developing machine learning and data-powered analytics for several aspects of AT&T's SDN network, including security analytics that detect and mitigate threats to AT&T's Network Infrastructure, optimization and machine learning algorithms for network event and fault detection, and analytics that identify revenue improvement opportunities for AT&T's Enterprise customers. Kathy received her Ph.D. in Operations Research from the University of Delaware in 1984 with a research focus in Applied Probability and Queueing Theory. Prior to obtaining her Ph.D., she spent a year at the University of Stuttgart and at Technion. In 1991, she was a visiting researcher at Rutgers University Wireless Information Network Lab. Kathy is the author of numerous publications and patents in the area of applied probability.

*This is a public forum that qualifies attendees for Professional Development Hours.
NJIT welcomes attendees from all area colleges and universities.
Co-sponsors: Albert Dorman Honors College, Sigma Xi – NJIT Chapter, and Microsoft
For more information: Visit <http://tsf.njit.edu> or contact Professor Michel Boufadel,
boufadel@njit.edu*

Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

NSF: Biological and Environmental Interactions of Nanoscale Materials; Program: Ideas Lab: Practical Fully-Connected Quantum Computer Challenge (PFCQC); Big Data Regional Innovation Hubs: Establishing Spokes to Advance Big Data Applications (BD Spokes)

NIH: Innovative Research in Cancer Nanotechnology (IRCN) (R01); Enhancing Science, Technology, Engineering, and Math Educational Diversity (ESTEEMED) Research Education Experiences (R25)

Department of Defense/US Army/DARPA/ONR: 2018 Air Force Young Investigator Research Program (YIP); Army Research Laboratory Broad Agency Announcement for Basic and Applied Scientific Research; Strategic Initiatives, Department of Defense Multidisciplinary Research Program of the University Research Initiative (MURI); Defense University Research Instrumentation Program (DURIP)

Department of Energy: Solar Decathlon 2019 Future Planning - Request for Information

NASA: ROSES 2017: OSIRIS REx Participating Scientists Program; ROSES 2017: Heliophysics Data Environment Enhancements; ROSES 2017: Research Opportunities in Space and Earth Science

National Endowment of Humanities: Research and Development Grants; Digital Humanities Advancement Grants

Vilcek Foundation: The Vilcek Prizes for Creative Promise: Biomedical Sciences and Architecture

Recent Research Grant and Contract Awards

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

PI: Louis Lanzerotti (PI) and Andrew Gerrard (Co-PI)

Department: Center for Solar Terrestrial Research

Grant/Contract Project Title: Van Allen Probes RBSPICE Phase E Operations - Extended Mission I (ARDES)

Funding Agency: NASA

Duration: 07/15/16-12/15/17

PI: Gregory Fleishman (PI) and Dale Gary (Co-PI)

Department: Center for Solar Terrestrial Research

Grant/Contract Project Title: Impulsive Ion Escape at the Sun

Funding Agency: NASA

Duration: 06/02/16-06/19/19

PI: Donald Sebastian (PI)

Department: NJII

Grant/Contract Project Title: Information Technology Infrastructure Projects & Governance

Funding Agency: NJ DoH

Duration: 02/17/17-06/30/17

PI: Boris Khusid (PI)

Department: Chemical, Biological and Pharmaceutical Engineering

Grant/Contract Project Title: Research Opportunities in Complex Fluids and Macromolecular Biophysics

Funding Agency: NASA

Duration: 08/23/16-08/22/17

PI: Kamlesh Sirkar (PI)

Department: Chemical, Biological and Pharmaceutical Engineering

Grant/Contract Project Title: Novel Membrane-based Fabrics and Materials for Chemical and Biological Protection

Funding Agency: DTRA

Duration: 04/07/16-04/06/19

PI: Dale Gary (PI), Phillip Goode (Co-PI), Wenda Cao (Co-PI), Vasyl Yurchyshyn

Department: Center for Solar Terrestrial Research

Grant/Contract Project Title: High Resolution Studies of the Sun Using the New Solar Telescope (NST)

Funding Agency: NSF

Duration: 04/01/13-03/13/18

In the News...

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

Key GOP Lawmakers Reject Cuts to NIH: Sen. Roy Blunt (R-Mo.) and Rep. Tom Cole (R-Okla.) who chair, respectively, the Senate and House appropriations panels that fund the National Institutes of Health, "will push instead for Congress to increase the institutes' annual \$32 billion budget," [McClatchy reports](#) . President Trump had sought to slash \$1.2 billion in NIH research grants for the remainder of 2017 and asked for a 19 percent decrease in the agency's budget for next year. "We can give you other places to cut," Cole is quoted as saying. [AAU's Weekly Wrap-up](#), meanwhile reports that a bipartisan group of 164 House members has asked appropriators for \$8 billion for the National Science Foundation in FY18. "The letter was led by Reps. G.K. Butterfield (D-NC) and David McKinley (R-WV), who also issued a press release. More information is posted on <http://www.aau.edu/publications/article.aspx?id=18489>

Grants.gov Announces New Online Proposal Submission Protocols/Forms: Legacy PDF Application Package will be phased out in December 31, 2017.

- Applicants will no longer be able to download the older, single PDF application package of forms.
- Applicants can apply for grants using Grants.gov Workspace, which separates the application package into individual forms. Applicants can create a workspace, complete the individual PDF forms, and submit their application workspace package.
- The new online forms interface will be added to Grants.gov and will only be accessible through Workspace in February 2017.
- For any funding opportunities where applicants have downloaded the legacy PDF application package, they will be able to continue to submit that package until March 31, 2018.
- S2S (System-to-System) Submissions will continue to be supported.

For more information about Grants.gov Workspace, please visit our various Workspace resources:

- [Grants.gov Workspace Overview](#)
- [Grants.gov Workspace Training Video Series](#)
- [Grants.gov Community Blog articles on Workspace](#)

More information on Grants.gov workspace is posted on the website <https://www.grants.gov/web/grants/applicants/workspace-overview.html>. A presentation on Application Release Notes version 15.4 is posted on the website https://www.grants.gov/documents/19/23905/GDG-Applicant_Release_Notes_15.4.pdf

Webinar and Events

Event: NSF: 2017 CBET CAREER Proposal Writing Webinar

When: April 17, 2017; 1.00 PM – 6.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=191526&org=NSF

Brief Description: The NSF Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET) will host a CAREER Proposal Webinar, Monday, April 17, 2017, 1pm-6pm EDT, to share best practices regarding the development and submission of proposals to the CAREER program. Topics will include:

- CAREER guidelines and eligibility
- Tips for proposal preparation
- Recommendations for integrating research, education and outreach into a CAREER proposal
- Insight into a proposal review

The webinar will also feature live question-answer sessions with ENG program officers and CAREER awardees. See details in the [webinar agenda](#) (.docx).

Advance registration is required; [register in WebEx](#).

Contacts: Tamara Battle, tbattle@nsf.gov

Event: NSF Distinguished Lecture Series in Mathematical and Physical Sciences for FY17: *Skin-Inspired Electronic Materials and Devices*

When: April 24, 2017; 2.00 PM – 3.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=189675&org=NSF

Speaker: Prof. Zhenan Bao (Stanford University)

Contact: Andrew J. Lovinger, (703) 292-4933, alovinge@

Event: NSF CAREER Program Webinar**When: May 22, 2017; 1.00 PM – 3.00 PM****Website:**

https://www.nsf.gov/events/event_summ.jsp?cntn_id=191332&WT.mc_id=USNSF_13&WT.mc_e v=click

Abstract: The NSF CAREER Coordinating Committee hosts a webinar to answer participants' questions about development and submission of proposals to the NSF Faculty Early Career Development Program ([CAREER](#)). The webinar will give participants the opportunity to interact with members of the NSF CAREER Coordinating Committee in a question-and-answer format. In preparation for the webinar, participants are strongly encouraged to consult material available on-line concerning the CAREER program. In particular, the CAREER program [web page](#) has a wealth of current information about the program, including:

- the CAREER program solicitation [NSF 17-537](#);
- [frequently asked questions](#) about the CAREER program; and
- [slides](#) from a CAREER program overview.

Additionally, there is a video of a live presentation about the CAREER program accessible through the library of videos from a recent [NSF Grants Conference](#).

How to Submit Questions

Participants may submit questions about CAREER proposal development and submission in advance of and during the webinar by sending e-mail to: careerwebinarqs@nsf.gov

Please note that questions requiring determinations of eligibility for the CAREER program will not be addressed during the webinar. Other questions about the CAREER program that are not covered during the webinar should be directed to the appropriate NSF Divisional contact shown on the web page <http://www.nsf.gov/crssprgm/career/contacts.jsp>.

Webcast Available.

Please register: <https://nsf.webex.com/nsf/onstage/g.php?MTID=e8fb20f0a3f8d98b103b1e32160faee28>.

Event: Falling Walls Lab New York Forum**Where:** German House, 871 United Nations Plaza, New York**When:** September 14, 2017

Brief Description: The German Center for Research and Innovation will be hosting the Falling Walls Lab New York on September 14, 2017. Falling Walls Lab New York is an exciting forum for scientists, innovators and entrepreneurs to present their ideas in 3 minutes with the chance to win a travel grant to participate in the Falling Walls Finale in Berlin on November 8, 2017. Participation is open to bachelor's and master's students, PhD candidates, as well as postdocs, junior researchers from all disciplines and entrepreneurs. Please [click here for application details](#). **Please share this great opportunity by forwarding this call for applications** to anyone you think might have the ideas and skills to showcase their innovative thinking in a public forum.

More Information: Please visit www.germaninnovation.org or email at events@germaninnovation.org

Grant Opportunities

National Science Foundation

Grant Program: Biological and Environmental Interactions of Nanoscale Materials

Agency: National Science Foundation NSF PD 18-1179

RFP Website:

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505424&org=NSF&sel_org=NSF&from=fund

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

The goal of the **Biological and Environmental Interactions of Nanoscale Materials** program is to support research to advance fundamental and quantitative understanding of the interactions of biological and environmental media with nanomaterials and nanosystems. Materials of interest include one- to three-dimensional nanostructures, heterogeneous nano-bio hybrid assemblies, and other nanoparticles. Such nanomaterials and systems frequently exhibit novel physical, chemical, and biological behavior in living systems and environmental matrices as compared to the bulk scale. This program supports research that explores the interaction of nanomaterials in biological and environmental media.

Research areas supported by the program include:

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

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

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

The duration of unsolicited awards is generally one to three years. The typical award size for the program is \$100,000 per year. Proposals requesting a substantially higher amount than this, without prior consultation with the Program Director, may be returned without review.

INFORMATION COMMON TO MOST CBET PROGRAMS

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

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

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

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

Awards: CBET program mechanisms: CAREER, RAPID and Conference/Workshop

Letter of Intent: Not Required

Full Proposal Submission Due Date: Anytime

Contacts: Nora F. Savage nosavage@nsf.gov 703-292-7949

Grant Program: Ideas Lab: Practical Fully-Connected Quantum Computer Challenge (PFCQC)

Agency: National Science Foundation NSF 17-548

RFP Website:

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505328&org=NSF&sel_org=NSF&from=fund

Brief Description: Quantum computing is a revolutionary approach to information processing based on the quantum physics of coherent superposition and entanglement. Advantages of quantum computing include efficient algorithms for computationally difficult tasks, efficient use of resources such as memory and energy needed for computations, and new platforms for the simulation of quantum mechanical systems that are currently intractable using conventional computers. Applications for quantum computing, such as integer number factoring, search and optimization algorithms, and quantum simulations, will accelerate discoveries in a broad range of disciplines including physics, engineering, and computer science.

The task of building a practical quantum computer remains a Grand Challenge^{1,2}. To demonstrate a practical-scale quantum computer, advances are needed in several domains, including device fabrication, quantum control, new physical-level architectures, implementation of error correction and decoherence-avoiding strategies, compilation of quantum programs, programming of quantum computers, software to operate quantum computers, and quantum algorithm design. A co-design approach to integrating hardware, software, and quantum algorithms, adapted to the specific characteristics of the quantum-computing platform being developed, is needed to achieve quantum-computing capabilities beyond the classical computing limit and deliver on the promise of quantum computing.

This solicitation describes an Ideas Lab focused on the Practical Fully-Connected Quantum Computer (PFCQC) challenge. Ideas Labs are intensive meetings that bring together multiple diverse perspectives to focus on finding innovative cross-disciplinary solutions to grand challenge problems. The ultimate aim of this Ideas Lab is to facilitate the development and operation of a practical-scale quantum computer. The aspiration is that bringing together researchers from

diverse scientific backgrounds will engender fresh thinking and innovative approaches that will provide a fertile ground for new ideas on the design and fabrication of quantum devices and processors and implementation of quantum information processing algorithms. This will enable the solution of science problems that are currently beyond the reach of modern high-performance computing applications on classical computers. U.S. researchers may submit preliminary proposals for participation in the Ideas Lab only via FastLane. The goal is to form teams of domain scientists and engineers that will develop multidisciplinary ideas that eventually will be submitted as full proposals.

This Ideas Lab advances the objectives of two of [10 Big Ideas for Future NSF Investments](#): "The Quantum Leap: Leading the Next Quantum Revolution" and "Growing Convergent Research at NSF". The 10 big ideas will push forward the frontiers of U.S. research, provide innovative approaches to solve some of the most pressing problems the world faces, as well as lead to discoveries not yet known. This Ideas Lab also advances the third objective of the National Strategic Computing Initiative (NSCI), an effort aimed at developing new technological capabilities in the post-Moore's Law era.

This Ideas Lab is organized by the Division of Physics (PHY) in the Directorate for Mathematical and Physical Sciences (MPS), the Division of Computing and Communication Foundations (CCF) in the Directorate for Computer and Information Science and Engineering (CISE), and the Division of Electrical, Communications and Cyber Systems (ECCS) in the Directorate for Engineering (ENG).

Awards: Standard Grants; Anticipated Funding Amount: \$5,000,000 to \$15,000,000

Letter of Intent: Not Required

Full Proposal Submission Due Date:

- **Preliminary Proposal Due Date(s) (required)** (due by 5 p.m. submitter's local time):
June 19, 2017
- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):
November 30, 2017

Contacts: Bogdan Mihaila, 1015 N, telephone: (703) 292-8235, email: bmihaila@nsf.gov
Almadena Y. Chtchelkanova, 1115 N, telephone: (703) 292-8910, email: achtchel@nsf.gov

Grant Program: Big Data Regional Innovation Hubs: Establishing Spokes to Advance Big Data Applications (BD Spokes)

Agency: National Science Foundation NSF 17-546

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17546/nsf17546.htm>

Brief Description: NSF's Directorate for Computer and Information Science and Engineering (CISE) initiated the National Network of Big Data Regional Innovation Hubs (BD Hubs) program in FY 2015. Four BD Hubs – *Midwest, Northeast, South, and West* – were established to foster multi-sector collaborations among academia, industry, and government, both nationally and internationally. These BD Hubs are serving a convening and coordinating role by bringing together a wide range of Big Data stakeholders in order to connect solution seekers with solution providers. In FY 2016, the *Big Data Regional Innovation Hubs: Establishing Spokes to Advance Big Data Applications (BD Spokes)* solicitation began extending the BD Hubs network by establishing multi-institutional and multi-sector collaborations to focus on topics of specific interest to a given region. The first set of BD Spokes was funded in FY 2016. This solicitation calls for new BD Spoke proposals to be awarded in FY 2018. Collaborating with BD Hubs, each BD Spoke will focus on a particular topic that requires Big Data approaches and solutions. The set of activities managed by a BD Spoke will promote progress towards solutions in the chosen topic area. The regional BD Hub

Steering Committee will provide general guidance to each BD Spoke and will assist the BD Spoke in coordinating with the national BD Hub network, with other BD Spokes, and with the broader innovation ecosystem. The Big Data activities of a BD Spoke will be guided by the following broad themes:

- Accelerating progress towards addressing societal grand challenges relevant to the regional and national priority areas defined by the BD Hubs (information on priority areas can be found on each Hub's website listed in the Introduction section below);
- Helping automate the Big Data lifecycle; and
- Enabling access to and spurring the use of important and valuable available data assets, including international data sets where relevant.

NSF's overall Big Data research and development (R&D) portfolio includes fundamental research, infrastructure development and provisioning, education and workforce development, and community engagement. Not all of these aspects of the overall portfolio are covered by this solicitation. **In particular, this solicitation is not meant to fund proposals in which fundamental research is the primary activity.** If research is a substantial portion of the proposed activities, please consult with a cognizant NSF program officer of this solicitation to help find a more appropriate solicitation. For example, projects focused on foundations and innovative applications related to Big Data may be better suited for submission to the [Critical Techniques and Technologies for Advancing Foundations and Applications of Big Data Science & Engineering \(BIGDATA\)](#) program. Similarly, projects focused primarily on privacy research may be more suited to NSF's [Secure and Trustworthy Cyberspace \(SaTC\)](#) program.

There are two proposal categories covered by this solicitation: SMALL and MEDIUM BD Spokes.

All (SMALL or MEDIUM) BD Spoke proposals submitted in response to this solicitation must include a Letter of Collaboration from a regional BD Hub. Proposals not including a Letter of Collaboration from a BD Hub will be returned without review. No exceptions will be made.

Awards: Standard Grants

Estimated Number of Awards: 10 to 20

BD Spoke awards -- Approximately 10 to 20 total awards across both the SMALL and MEDIUM categories are anticipated through this solicitation.

The total number of awards will be subject to the outcome of panel reviews and availability of funds.

Anticipated Funding Amount: \$10,000,000

Each SMALL project will be funded at \$100,000 to \$500,000 total for up to three years, subject to the availability of funds. Each MEDIUM project will be funded at \$500,001 to \$1,000,000 total for up to three years, subject to the availability of funds.

Letter of Intent: Not Required

Limit on Number of Proposals per Organization: 1

Please send an email with a summary of the proposal to Vice Provost for Research at dhawan@njit.edu by no later than April 10, 2017, if you intend to submit a proposal.

The institutional commitment on the proposal submission will be made by April 12, 2017.

Full Proposal Submission Due Date: September 18, 2017

Contacts:

- Fen Zhao, Directorate for Computer and Information Science and Engineering, telephone: (703) 292-7344, email: fzhao@nsf.gov
- Earnestine Psalmonds-Easter, Directorate for Education & Human Resources, telephone: (703) 292-8112, email: epsalmon@nsf.gov

National Institutes of Health

Grant Program: Innovative Research in Cancer Nanotechnology (IRCN) (R01)

Agency: National Institutes of Health PAR-17-240

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-240.html>

Brief Description: General Expectations for IRCN Projects: IRCN awards are expected to produce **advances in applying nanotechnology to cancer research:** Significant advances are expected in the overall capacity to employ nanotechnology to understand neoplastic diseases. Each proposed IRCN project is expected to generate new fundamental knowledge aiding the development of nanotechnology-based solutions to major problems in cancer-biology and/or oncology. These projects should emphasize fundamental understanding of nanomaterial and/or nanodevice interactions with biological systems, including aspects relevant to the delivery of nanoparticles and/or nanodevices to desired and intended cancer targets *in vivo*. *The innovative use of nanotechnology to solve cancer biology/oncology problems is viewed as more significant than innovation in nanotechnology itself (e.g., development of new nanomaterials).*

Possible Research Directions: Examples of appropriate research areas are listed below. These examples are not meant to be comprehensive. Additional directions are also encouraged, providing they are consistent with the general expectations stated above.

- Detailed studies and understanding of nanoparticle and nanodevice delivery mechanisms and implications of systemic distribution, including, but not limited to:
 - factors affecting endosomal escape of nanoparticles;
 - Enhanced Permeability and Retention (EPR) effect;
 - comparison of passive vs active targeting;
 - evidence of nanomaterial penetration through biological barriers and target organ accumulation with minimal off-target effects;
- Techniques and tools to overcome failure of therapy, including, but not limited to:
 - acquired drug resistance;
 - presence of circulating tumor cells (CTCs);
 - the establishment of metastatic spread;
- Tools and devices aimed specifically at monitoring of the tumor microenvironment, its heterogeneity, and its changes during tumor progression;
- Understanding and refinement of next generation nanosystem design (e.g., bioresponsive and bioactivatable nanomaterials, externally triggered nanoparticles/nanosystems, physiologically triggered nanoparticles/nanosystems);
- Approaches to further understanding and effectiveness of cancer immunotherapies, including, but not limited to:
 - vehicles for delivery of vaccines and adjuvants;
 - artificial antigen presenting cells;
 - tools for post-treatment monitoring of the immune system;
- Technologies suitable for biomarker discovery and screening (e.g., devices that detect and monitor changes in biomarker expression);
- Development of improved multi-biomarker detection and/or diagnostic devices (e.g., fundamental studies of nanomaterial properties that affect sensitivity and specificity of cancer-specific biomarkers);
- Diagnostic nanoparticles/devices that preserve integrity of captured cells and conformation of isolated molecules for downstream activity assays and analyses;
- Technologies for cancer molecular targeting, discovery, and validation (e.g., targeting of signaling pathway members such as mutant KRAS or mTOR);

- Devices and tools capable of penetrating cellular and/or physiological barriers (e.g., blood-brain-barrier, stroma);
- Integration of modeling and simulation approaches that incorporate characterization data on interactions of nanoparticles with the physiological environment to guide rational nanomaterial design.

Awards: Application budgets are limited to \$450K in direct costs per year and need to reflect the actual needs of the proposed project.

Letter of Intent: Not required.

Deadline: November 21, 2017; May 23, 2018; November 20, 2018; May 23, 2019, November 21, 2019, May 21, 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: Enhancing Science, Technology, Engineering, and Math Educational Diversity (ESTEEMED) Research Education Experiences (R25)

Agency: National Institutes of Health PAR-17-221

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-221.html>

Brief Description: The mission of the NIBIB is to improve human health by leading the development and accelerating the application of biomedical technologies. NIBIB is committed to increasing the participation and success of racial and ethnic minorities and other underrepresented populations in engineering and the biological, computational, and physical sciences. To this end, the institute develops and supports programs that enhance the recruitment, retention, training, and career development of underrepresented minorities, people with disabilities, and people from disadvantaged backgrounds across the career continuum into the biomedical workforce. NIBIB's proactive approach to ensuring a diverse and sustainable biomedical workforce is to develop innovative programs that target roadblocks at critical transition points in the biomedical research pipeline that hinder the participation of underrepresented populations. The ESTEEMED program seeks to facilitate the training of students underrepresented in STEM fields, i.e. racial or ethnic minorities and people with disabilities, who intend to focus on NIBIB's mission areas later in their careers.

Need for the Program

Racial and ethnic minorities and persons with disabilities (PWD) are critically underrepresented in the science in engineering fields. The 2017 NSF report "Women, Minorities, and Persons with Disabilities in Science and Engineering" (<https://www.nsf.gov/statistics/2017/nsf17310/digest/about-this-report/>) indicates that ~38% of the United States resident population aged 18-64 identified as a racial or ethnic minority. However, students from racial and ethnic minorities comprised only ~20% of the students who graduated with a bachelor's degree in a science and engineering field, and only ~8% of these graduated with a doctoral degree. This demonstrates a need for an intervention to encourage more students from underrepresented groups to continue on to doctorate degrees and successful research careers. A 2012 report from the President's Council of Advisors on Science and Technology recommended support of programs to retain underrepresented undergraduate science, technology, engineering and math students as a means to effectively build a diverse and competitive scientific workforce (PCAST Report, 2012).

To accomplish the stated over-arching goal, this FOA will support creative educational activities with a primary focus on:

- **Research Experiences:** for undergraduate students to provide preparation for and hands-on exposure to research. At a minimum, this preparation should include a summer bridge program, summer research experience, and additional activities during the academic year, including, but not limited to seminars and/or workshops that enhance skills in the basic sciences, computation, and scientific communication as well as introduce students to the laboratory environment
- **Mentoring Activities:** dedicated to providing not only technical expertise, but advice, individual coaching, professional development, and career guidance to the participants. Mentoring should occur at multiple levels ideally involving faculty, peers, alumni, and family. For institutions with graduate degree programs, Ph.D. candidates may also participate as mentors.

Programmatic Approach

The outcomes of an earlier NIBIB contract-based program have emphasized that pre-admission summer bridge programs; strong mentoring by faculty, peers, alumni, and family; community building activities; and early exposure to biomedical research are critical elements for attracting, retaining, and preparing diversity students in STEM fields for subsequent biomedical research careers. Therefore, the NIBIB requires these program elements in the current Funding Opportunity Announcement (FOA).

The program supported by this FOA must contain at least three elements: a summer bridge program that occurs before the start of the freshman year, a program for freshmen and sophomores during the academic year, and a summer research experience after the sophomore academic year. Ideally, at the completion of this program, participants will enter into an independent Honors Program for juniors and seniors at the applicant institution.

1. Summer Bridge Program

The main focus of the Summer Bridge Program is to prepare participants for their first year of college, introduce them to this R25 program, and to provide remedial instruction to participants to bridge gaps in their knowledge. It must take place during the summer before the freshman year, last at least five weeks, and emphasize basic sciences, computation, and science communication.

Rising sophomores are encouraged to mentor incoming participants in the Summer Bridge Program in the summer between their freshman and sophomore years.

2. Academic Year Activities

In addition to continuing to emphasize basic sciences, computation, and science communication, the Academic Year Activities should help participants maximize their academic performance and prepare them for summer research experiences and eventual entry into an Advanced Honors Program. Academic year activities should include, but are not limited to, courses, journal clubs, individual development plans for each participant, seminars/workshops, professional development programs, and travel to national meetings. Activities such as workshops on scientific presentation and writing, that promote scientific communication skills, are highly encouraged. There should be an increasing sophistication in these activities as participants proceed from the freshman to the sophomore year.

3. Summer Research Experience

At the end of their sophomore year, each participant is expected to take part in a hands-on summer research experience that involves a defined research project and includes a final oral presentation and written report of their work. This could take place in an on-campus laboratory or be an off-campus research experience for high achieving undergraduate students, such as the National Science Foundation (NSF)-sponsored Research Experience for Undergraduates Summer Programs (REU) program, the Howard Hughes Medical Institute (HHMI)-sponsored Janelia

Undergraduate Scholars Program, or an industry internship. The Summer Research Experience is expected to last at least eight weeks or the majority of the summer.

Participants are encouraged to engage in an on- or off-campus summer research experience between the freshman and sophomore year. However, program funds will only be provided for the Summer Research Experience after the sophomore year.

Linkage to Advanced Honors Program

The program to be supported with this Funding Opportunity Announcement (FOA) is intended as a feeder program that prepares participants for entry into an Advanced Honors Program for underrepresented juniors and seniors in STEM fields. This ensures that participants will have a full four years of support throughout their undergraduate education. Applicants are therefore required to describe the feeder program, the existing Advanced Honors Program, and the linkage between the two programs.

Goals of Program, Identification of Evaluation Metrics and Sunset Provisions

- The overarching goal of this FOA is to prepare undergraduate freshman and sophomores from underrepresented backgrounds for Ph.D. or M.D./Ph. D programs. After ten years, the NIBIB will review the overall success of the funded programs to determine whether to continue this FOA as currently configured. The success of a funded program will be evaluated based on specific participant outcomes, including transition into an Advanced Honors Program; graduation with a baccalaureate degree in a STEM field; enrollment into and graduation from a Ph.D. or M.D./Ph. D program; postdoctoral employment; and entry into a biomedical research career in academia or industry.

Research education programs may complement ongoing research training and education occurring at the applicant institution, but the proposed educational experiences must be distinct from those training and education programs currently receiving Federal support. R25 programs may augment institutional research training programs (e.g., T32, T90) but cannot be used to replace or circumvent Ruth L. Kirschstein National Research Service Award (NRSA) programs.

Awards: Application budgets are not limited but need to reflect the actual needs of the proposed project. Student salaries, per participant, for the three components of the program are: \$2,000 for the summer bridge experience, \$12,000 per academic year for two years, and \$4,000 for the summer research experience following the sophomore year.

Limited Submission: Only one application per institution (normally identified by having a unique DUNS number or NIH IPS number) is allowed. The NIH will not accept duplicate or highly overlapping applications under review at the same time. This means that the NIH will not accept:

- A new (A0) application that is submitted before issuance of the summary statement from the review of an overlapping new (A0) or resubmission (A1) application.
- A resubmission (A1) application that is submitted before issuance of the summary statement from the review of the previous new (A0) application.
- An application that has substantial overlap with another application pending appeal of initial peer review (see [NOT-OD-11-101](#)).

Please send an email with a summary of the proposal to Vice Provost for Research at dhawan@njit.edu by no later than April 10, 2017, if you intend to submit a proposal. The institutional commitment on the proposal submission will be made by April 12, 2017.

Letter of Intent: April 24, 2017

Deadline: May 24, 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 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: 2018 Air Force Young Investigator Research Program (YIP)

Agency: Department of Defense Air Force Office of Scientific Research

BAA-AFRL-AFOSR-2017-0002

Website: <http://www.wpafb.af.mil/Welcome/Fact-Sheets/Display/Article/842100/#anchor2>

Brief Description: The Air Force YIP supports scientists and engineers who have received Ph.D. or equivalent degrees in the last five years and show exceptional ability and promise for conducting basic research. The objective of this program is to foster creative basic research in science and engineering; enhance early career development of outstanding young investigators; and increase opportunities for the young investigator to recognize the Air Force mission and related challenges in science and engineering.

Individual awards are made to U.S. institutions of higher education, industrial laboratories, for-profit businesses, or non-profit research organizations where the principal investigator is a U.S. citizen, national, or permanent resident by 01 October 2017; employed on a full-time basis and holds a permanent position. All PIs and co-PIs must meet all general eligibility requirements and one of the following criteria:(1) Received a Ph.D. or equivalent degree on 1 April 2012 or later; or, (2) Received a Ph.D. or equivalent degree between 1 April 2010 and 1 April 2012, be presently in a tenure-track position and have served as a tenure-track faculty member for no more than two years prior to 01 April 2017. Examples of other interim appointments after receiving Ph.D. include: post-doctoral or research associate positions, serve as active duty service member for the U.S. Armed Forces, or maternity/paternity leave

Individual awards will be made to U.S. institutions of higher education, industrial laboratories or non-profit research organizations where the principal investigator is a U.S. citizen, national or permanent resident; employed on a full-time basis and hold a regular position. Researchers working at the Federally Funded Research and Development Centers and DoD Laboratories will not be considered for the YIP competition.

Awards: Each award will be funded at the \$120K level for three years. Exceptional proposals will be considered individually for higher funding levels and longer duration.

Proposal Deadline: Jun 01, 2017 Proposals must be received electronically through Grants.gov by Thursday, 01 Jun 2017 at 11:59 PM Eastern time to be considered. Technical or general pre-proposal inquiries and questions must be received in writing by electronic mail not later than Monday, 01 May 2017 to be considered.

Contact Information: King Nwoha Procurement Analyst Phone 703 6961146

afosryip@us.af.mil

Grant Program: Army Research Laboratory Broad Agency Announcement for Basic and Applied Scientific Research

**Agency: Department of Defense Dept of the Army -- Materiel Command W911NF-17-S-0003
Also Army Research Office Broad Agency Announcement for Basic and Applied Scientific Research W911NF-17-S-0002**

Website:

<https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=1ff4626a4e06143fe31e4b837e890c6f>

Brief Description: This Broad Agency Announcement (BAA) sets forth research areas of interest of the Army Research Laboratory (ARL). This BAA is issued under FAR 6.102(d)(2), which

provides for the competitive selection of basic and applied research proposals, and 10 U.S.C. 2358, 10 U.S.C. 2371, and 10 U.S.C. 2371b, which provide the authorities for issuing awards under this announcement for basic and applied research. The definitions of basic and applied research may be found at 32 CFR 22.105. Proposals submitted in response to this BAA and selected for award are considered to be the result of full and open competition and in full compliance with the provision of Public Law 98-369, "The Competition in Contracting Act of 1984" and subsequent amendments. Eligible applicants under this BAA include institutions of higher education, nonprofit organizations, state and local governments, foreign organizations, foreign public entities, and for-profit organizations (i. large and small businesses) for scientific research in mechanical sciences, mathematical sciences, electronics, computing science, physics, chemistry, life sciences, materials science, network science, and environmental sciences.

Awards: Various.

Proposal Deadline: This BAA is a continuously open announcement valid throughout the period from the date of issuance through March 31, 2022, unless announced otherwise. This BAA succeeds ARL BAA W911NF-12-R-0011 (including all amendments) dated May 15, 2012.

Contact Information: ANDREW L. FISKE PROCUREMENT ANALYST Phone: (919) 549-4338

Grant Program: Strategic Technologies

Agency: Department of Defense DARPA HR001117S0015

Website:

<https://www.fbo.gov/index?s=opportunity&mode=form&id=886e670b8f5bc3deca1e612e60399483&tab=core&cvview=0>

Brief Description: DARPA is seeking innovative ideas and disruptive technologies that provide the U.S. military significant capability improvement to dominate across all scales of conflict intensity. These span highly contested force-on-force conflicts to ambiguous, complex 'Gray Zone' conflicts. Technologies should support conflicts that may take place in a range of environments from austere, remote locations to dense megacities. The Strategic Technology Office (STO) focus areas within these broader objectives include: Situation Understanding, Multi-Domain Maneuver, Hybrid Effects, System of Systems (SoS), Maritime Systems, System of System-Enhanced Small Units (SESU), and Foundational Strategic Technologies.

Awards: Various.

Proposal Deadline: March 21, 2018

Contact Information: BAA Coordinator

HR001117S0015@darpa.mil

Grant Program: Fiscal Year (FY) 2018 Department of Defense Multidisciplinary Research Program of the University Research Initiative (MURI) - ARMY SUBMISSION

Similar RFPs from Other DoD Agencies such as ONR, AFOSR, US Army, etc.

Agency: Department of Defense US Army N00014-17-S-F006

Website: <https://www.arl.army.mil/www/default.cfm?page=8>

<https://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal.aspx>

Brief Description: DOD's MURI program addresses high risk basic research and attempts to understand or achieve something that has never been done before. The program was initiated over 25 years ago and it has regularly produced significant scientific breakthroughs with far reaching consequences to the fields of science, economic growth, and revolutionary new military

technologies. Key to the program's success is the close management of the MURI projects by Service program officers and their active role in providing research guidance. The DoD agencies will not issue paper copies of this announcement. The DoD agencies involved in this program reserve the right to select for award all, some or none of the proposals submitted in response to this announcement. The DoD agencies provide no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this FOA will not be returned. It is the policy of the DoD agencies to treat all proposals as competition sensitive information and to disclose their contents only for the purposes of evaluation.

The MURI program supports basic research in science and engineering at U.S. institutions of higher education (hereafter referred to as "universities") that is of potential interest to DoD. The program is focused on multidisciplinary research efforts where more than one traditional discipline interacts to provide rapid advances in scientific areas of interest to the DoD. As defined in the DoD Financial Management Regulation: 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 (DoD 7000.14-R, vol. 2B, chap. 5, para. 050201.B). DoD's basic research program invests broadly in many specific fields to ensure that it has early cognizance of new scientific knowledge.

Awards: The total amount of funding for five years available for grants resulting from this MURI FOA is estimated to be approximately \$170 million dollars pending out-year appropriations. MURI awards are contingent on availability of funds, the specific topic, and the scope of the proposed work. Typical annual funding per grant is in the \$1.25M to \$1.5M range. The amount of the award and the number of supported researchers should generally not exceed the limit specified for the individual topics in Section VIII.

Proposal Deadline:

White Papers: 17 Jul 2017 (Monday) 11:59 PM Eastern Daylight Time

Proposals: 01 Nov 2017 (Wednesday) 11:59 PM Eastern Daylight Time

Contact Information:

Dr. Ellen Livingston MURI Program Manager Office of Naval Research, Code 03R Email: ellen.s.livingston@navy.mil

Grant Program: Defense University Research Instrumentation Program (DURIP)

Agency: Department of Defense PA-AFRL-AFOSR-2017-0001

Website: <http://www.arl.army.mil/www/default.cfm?page=8%20>

https://www.fbo.gov/index?s=opportunity&mode=form&id=ed3e2f50150544d3a699052f563d8793&tab=core&_cview=0

Brief Description: The Department of Defense (DoD) announces the Fiscal Year 2017 Defense University Research Instrumentation Program (DURIP). DURIP is designed to improve the capabilities of accredited United States (U.S.) institutions of higher education to conduct research and to educate scientists and engineers in areas important to national defense, by providing funds for the acquisition of research equipment or instrumentation. For-profit organizations are not eligible for DURIP funding.

This announcement seeks proposals from universities to purchase equipment and instrumentation in support of research in areas of interest to the DoD. DoD interests include the areas of research supported by the Army Research Office (ARO), the Office of Naval Research (ONR), and the Air Force Office of Scientific Research (AFOSR), hereafter generally referred to collectively as "we, our, us, or administering agency."

Each administering agency will make grant awards to fund the purchase of research equipment or instrumentation costing \$50,000 or more that cannot typically be purchased within the budgets of single-investigator awards. We generally cannot make any individual award that exceeds more than \$1,500,000 in DoD funding unless your proposal qualifies for an exception. We intend to award approximately \$47 million under this competition, subject to availability of funds. DURIP awards are typically one year in length. DURIP is part of the University Research Initiative (URI).

Awards: Various; Estimated Funding Available: \$47,000,000

Full Proposal Deadline: July 07, 2017 Pre-Proposal inquires and questions must be submitted not later than Friday, 16 Jun 2017.

Contact Information: David Broadwell Grants Officer Phone 703-588-2866
[Business POC](#)

Department of Energy

Grant Program: Solar Decathlon 2019 Future Planning - Request for Information

Agency: Department of Energy DE-FOA-0001753

Website: <https://eere-exchange.energy.gov/#Foald72d17068-b4e5-4694-b1f7-ac3269743b1e>

Brief Description: This is a Request for Information (RFI) only.

The Solar Decathlon is a program for collegiate teams to design, build, and operate solar-powered houses that are innovative, energy-efficient, and attractive. It provides participating students with hands-on experience and training. The Solar Decathlon, is open to the public and the next Solar Decathlon will take place October 5-15, 2017, in Denver, Colorado. Since Solar Decathlon's inception in 2002, DOE has continuously sought to refine and improve both the application process and event execution. This RFI seeks information to inform designing, planning and implementing Solar Decathlon 2019 that is planned to also take place in the Denver area. The goals of this Request for Information (RFI) are twofold:

1. Gather feedback on changes being considered by the Department of Energy to increase the opportunities for team participation and innovation, and
2. Gather feedback on ways DOE can reduce the barriers to entry for participation for university teams.

DOE is specifically interested in feedback regarding changes that would make it easier for universities to compete in the Solar Decathlon while maintaining the ability to hold a large public event that enables the public to experience the innovation in the houses. This is an RFI only.

Document: [Request for Information DE-FOA-0001753 - Solar Decathlon 2019 Future Planning - Full Text](#)

Contact Information: solar.decathlon@ee.doe.gov For responses to this Request for Information. Include the RFI number DE-FOA-0001753 in the email Subject line.

- EERE-ExchangeSupport@hq.doe.gov For technical assistance with EERE Exchange.
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NASA

Grant Program: ROSES 2017: OSIRIS REx Participating Scientists Program

Agency: NASA NNH17ZDA001N-ORPSP

Website:

<https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={5D4CC7DB-3500-26FF-300B-E42C445F95A0}&path=open>

Brief Description: The objective of the OSIRIS-REx Participating Scientist Program (OREx-PSP) is to enhance the scientific return during the asteroid-operational phase of the OSIRIS-REx mission by expanding participation in the mission through new investigations that broaden and/or complement existing investigations.

Eligibility: In order to meet the OREx-PSP objective to expand participation in the mission, existing OSIRIS-REx Co-Is may not be the PI or Science PI of a proposal to this program element. See section 2.1 for the implications of selection of a proposal containing work efforts by existing OSIRIS-REx team members.

Background Information: OSIRIS-REx launched September 8, 2016, with the primary objective of traveling to the near-Earth (Apollo-type, spectral class B) asteroid 101955 Bennu, obtaining a sample containing at least 60 g of regolith material, and delivering this sample back to Earth. Once the spacecraft reaches Bennu, a wide range of observations and measurements will be made to characterize and map the asteroid, identify and characterize in detail sites where samples might be collected, and finally to collect a sample from the optimal site and stow it for delivery to Earth.

Awards: Expected Budget: \$500k for the first year

Proposal Deadline: ORPSP17 Step-1 Proposals Due May 04, 2017

Contact: Dr. Max Bernstein sara@nasa.gov

Grant Program: ROSES 2017: Heliophysics Data Environment Enhancements

Agency: NASA NNH17ZDA001N-HDEE

Website:

<https://nspires.nasaprs.com/external/viewrepositorydocument/cmdocumentid=553740/solicitationId=%7B56DDC86D-A108-5F7C-1968-CD74473AC8F6%7D/viewSolicitationDocument=1/B.7%20HDEE.pdf>

Brief Description: The Heliophysics Data Environment Enhancements (H-DEE) program is a component of the Heliophysics Research Program and proposers interested in this program element are encouraged to see the overview of the Heliophysics Research Program in B.1 of this ROSES NRA. The work carried out for this program should be in support of the Heliophysics strategic goals and objectives in NASA's 2014 Strategic Plan and Chapter 4.1 of the NASA 2014 Science Plan (<https://science.nasa.gov/about-us/science-strategy>). The recommended priorities of the Heliophysics community are also discussed in the National Research Council Decadal Strategy for Solar and Space Physics report, Solar and Space Physics: A Science for a Technological Society (<http://www.nap.edu/catalog/13060/solar-and-space-physics-a-science-for-a-technological-society>). Note particularly the sections of the Decadal report dealing with the "DRIVE" initiative, more specifically "R" and "I," and the discussion in Appendix B. The H-DEE program encompasses the data environment needs throughout Heliophysics, including Solar, Heliospheric, and Geospace Sciences (Magnetosphere and Ionosphere/Thermosphere/Mesosphere [ITM]). As part of a mission-oriented agency, the Heliophysics Research Program seeks to fund those efforts that directly impact NASA missions or interpretation of their data. Therefore, investigations that are judged to be more appropriate for

submission to other Federal agencies, even if of considerable merit, will not be given high priority for funding through this solicitation.

Awards: Expected Budget: \$500k for the first year

Proposal Deadline: HDEE17 Step-1 Proposals Due May 17, 2017

Contact: <http://nspires.nasaprs.com/> (help desk available at nspires-help@nasaprs.com or (202) 479- 9376)

Grant Program: ROSES 2017: Research Opportunities in Space and Earth Science

Agency: NASA NNH17ZDA001N

Website:

<https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId=%7BE757EF32-60E6-76AE-A276-21A1F8BA96BB%7D&path=open>

Brief Description: This ROSES NRA (NNH17ZDA001N) solicits basic and applied research in support of NASA's Science Mission Directorate (SMD). The NRA covers all aspects of basic and applied supporting research and technology in space and Earth sciences, including, but not limited to: theory, modeling, and analysis of SMD science data; aircraft, scientific balloon, sounding rocket, International Space Station, CubeSat and suborbital reusable launch vehicle investigations; development of experiment techniques suitable for future SMD space missions; development of concepts for future SMD space missions; development of advanced technologies relevant to SMD missions; development of techniques for and the laboratory analysis of both extraterrestrial samples returned by spacecraft, as well as terrestrial samples that support or otherwise help verify observations from SMD Earth system science missions; determination of atomic and composition parameters needed to analyze space data, as well as returned samples from the Earth or space; Earth surface observations and field campaigns that support SMD science missions; development of integrated Earth system models; development of systems for applying Earth science research data to societal needs; and development of applied information systems applicable to SMD objectives and data. Solicitation website <https://nspires.nasaprs.com/external/viewrepositorydocument/cmdocumentid=554057/solicitationId=%7BE757EF32-60E6-76AE-A276-21A1F8BA96BB%7D/viewSolicitationDocument=1/ROSES%202017%20SoS.pdf>

Awards: Awards range from under \$100K per year for focused, limited efforts (e.g., data analysis) to more than \$1M per year for extensive activities (e.g., development of specialized science experimental hardware).

Letter of Intent: Contact Program Officer

Full Proposal Deadline: May 15, 2017 to June 01, 2018

Contact: Tsengdar J. Lee, Earth Science Division, Science Mission Directorate, NASA Headquarters, Washington, DC 20546-0001, E-mail: Tsengdar.J.Lee@nasa.gov , Telephone: 202-358-0860

National Endowment of Humanities

Grant Program: Research and Development Grants

Agency: National Endowment of Humanities

Website: <https://www.neh.gov/grants/preservation/research-and-development>

Brief Description: The Research and Development program supports projects that address major challenges in preserving or providing access to humanities collections and resources. These challenges include the need to find better ways to preserve materials of critical importance to the

nation's cultural heritage—from fragile artifacts and manuscripts to analog recordings and digital assets subject to technological obsolescence—and to develop advanced modes of organizing, searching, discovering, and using such materials. This program recognizes that finding solutions to complex problems often requires forming interdisciplinary project teams, bringing together participants with expertise in the humanities; in preservation; and in information, computer, and natural science.

All projects must demonstrate how advances in preservation and access would benefit the cultural heritage community in supporting humanities research, teaching, or public programming.

Research and Development offers two funding tiers in order to address projects at all stages of development and implementation.

Tier I: Planning and Basic Research

Tier I grants support the following activities:

- planning and preliminary work for large-scale research and development projects; and
- stand-alone basic research projects, such as case studies, experiments, or the development of methods, models, and tools.

Tier II: Advanced Implementation

Tier II grants support projects at a more advanced stage of implementation for the following activities:

- the development of standards, practices, methodologies, or workflows for preserving and creating access to humanities collections; and
- applied research addressing preservation and access issues concerning humanities collections.

Awards: For Planning and Basic Research (Tier I) projects, the maximum award is \$75,000 for up to two years. For Advanced Implementation (Tier II) projects, the maximum award is \$350,000 for up to three years. Successful applicants will be awarded a grant in outright funds, federal matching funds, or a combination of the two, depending on the applicant's preference and the availability of NEH funds. Matching funds are released when a grantee secures nonfederal gift funds from eligible third parties.

Proposal Deadline: June 8, 2017

Contact: Contact the staff of NEH's Division of Preservation and Access at preservation@neh.gov and 202-606-8570. Applicants who are deaf or hard of hearing can contact NEH via Federal Relay (TTY users) at 800-877-8399.

Grant Program: Digital Humanities Advancement Grants

Agency: National Endowment of Humanities

Website: <https://www.neh.gov/grants/odh/digital-humanities-advancement-grants>

Brief Description: Digital Humanities Advancement Grants (DHAG) support digital projects throughout their lifecycles, from early start-up phases through implementation and long-term sustainability. Experimentation, reuse, and extensibility are hallmarks of this grant category, leading to innovative work that can scale to enhance research, teaching, and public programming in the humanities.

This program combines the former Digital Humanities Start-Up Grants and Digital Humanities Implementation Grants programs; the combined program is offered twice per year. Proposals are welcome for digital initiatives in any area of the humanities.

Through a special partnership, the Institute of Museum and Library Services (IMLS) anticipates providing additional funding to this program to encourage innovative collaborations between

museum or library professionals and humanities professionals to advance preservation of, access to, use of, and engagement with digital collections and services. Through this partnership, IMLS and NEH may jointly fund some DHAG projects that involve collaborations with museums and/or libraries.

Digital Humanities Advancement Grants may involve

- creating or enhancing experimental, computationally-based methods or techniques that contribute to the humanities;
- pursuing scholarship that examines the history, criticism, and philosophy of digital culture and its impact on society, or explores the philosophical or practical implications and impact of digital humanities in specific fields or disciplines; or
- revitalizing and/or recovering existing digital projects that promise to contribute substantively to scholarship, teaching, or public knowledge of the humanities.

Awards: Awards up to \$375,000.

Proposal Deadline: June 06, 2017

Contact: Contact the Office of Digital Humanities (ODH) via e-mail at odh@neh.gov. Applicants wishing to speak to a staff member by telephone should provide in an e-mail message a telephone number and a preferred time to call.

Vilcek Foundation

Grant Program: The Vilcek Prizes for Creative Promise

Agency: Vilcek Foundation

Website: <http://www.vilcek.org/prizes/creative-promise/index.html>

Brief Description: The Vilcek Prizes for Creative Promise were established in 2009 as a complement to the Vilcek Prizes, to encourage and support young immigrants who have already demonstrated exceptional achievements, and who often face significant challenges early in their careers. As with the Vilcek Prizes, the Creative Promise Prizes are awarded annually in biomedical science and in a changing category of the arts, this year recognizing accomplishments in the field of fine arts.

Awards:

Biomedical Sciences: The Vilcek Foundation will award three prizes of \$50,000 each to young foreign-born biomedical scientists who demonstrate outstanding early achievement. Eligible work may be in basic, applied, and/or translational biomedical science.

Architecture: The Vilcek Foundation will award three prizes of \$50,000 each to young architects and building professionals who demonstrate extraordinary talent, dedication, and potential to advance the field of architecture. The prizes are meant to facilitate future discovery and impact for promising architects and building arts professionals at a critical stage in their careers.

Eligible applicants are professionals working in fields related to the built environment, including:

- Architecture
- Urban Planning
- Landscape Architecture
- Architectural Engineering (e.g., sustainable or integrated design)
- Architecture Criticism

Proposal Deadline: May 31, 2017
