

# NJIT Research Newsletter

Issue: ORN-2017-11

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**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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## Save The Date!

Office of Research Events Calendar: Spring 2017

### Research Showcases and Presidential Research Forums:

**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:** Bill Huffnagle, President, Reconstructive Division at Stryker Orthopaedics

**Event: Faculty Research Advisory Board Meeting**

**When:** April 11, 2017; 1.00 PM – 2.00 PM

**Where:** Ballroom B

**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

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## Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

**NSF:** Big Data Regional Innovation Hubs: Establishing Spokes to Advance Big Data Applications (BD Spokes); Thermal Transport Processes; Nano-Biosensing

**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:** 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); Acquisition Research Program; Internet of Battlefield Things (IoBT) Collaborative Research Alliance (CRA); Defense University Research Instrumentation Program (DURIP)

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

**NASA:** 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

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## Recent Research Grant and Contract Awards

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

**PI:** Hieu Pham Trung Nguyen (PI)

**Department:** Electrical and Computer Engineering

**Grant/Contract Project Title:** Nitride Based High Brightness Green Laser Diodes Operating in 480-550 nm Spectral Regime

**Funding Agency:** US Army

**Duration:** 08/15/16-04/15/17

**PI:** Kurt Rohloff (PI)

**Department:** Cybersecurity Center

**Grant/Contract Project Title:** REVET: Research for Economic Visibility with Homomorphic Encryption Technology

**Funding Agency:** Alfred P. Sloan Foundation

**Duration:** 05/01/17-10/31/18

**PI:** Lazar Spasovic (PI), Steven Chien, Jo Young Lee, Taha Marhaba, Abdallah Khreishah, Chengjun Liu (Co-PIs)

**Department:** Civil and Environmental Engineering, Electrical and Computer Engineering, Computer Science

**Grant/Contract Project Title:** Intelligent Transportation Systems Resource Center (ITSRC)

**Funding Agency:** NJ Department of Transportation

**Duration:** 02/10/17-12/31/17

**PI:** Eun Jung Lee (PI)

**Department:** Biomedical Engineering

**Grant/Contract Project Title:** The Effect of Myocardial Inflammation on Stem Cell Effectiveness as "Repair Cell" Therapy

**Funding Agency:** NIH

**Duration:** 04/01/17-03/31/20

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### **In the News...**

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

**New Proposed Budget Cuts for NIH Research:** The National Institutes of Health would absorb an enormous \$5.8 billion cut under President Trump's first budget proposal — equal to about 19 percent of its current \$30.3 billion discretionary budget. The plan "includes a major reorganization" of NIH's 27 institutes and centers and would eliminate the Fogarty International Center, a \$69.1 million program dedicated to building partnerships between health research institutions in the United States and abroad. With few details available in the budget outline, it is unclear what kind of reorganization the administration envisions at NIH, the crown jewel of U.S. biomedical research. The agency funds research into a vast array of diseases and conditions, including cancer, heart disease, developmental disorders and mental illness. The agency passes out more than 80 percent of its money to more than 300,000 researchers at universities across the country and abroad. It also has hundreds of researchers conducting studies in labs at its sprawling campus in Bethesda, Md. Its world-renowned clinical center treats patients from around the world seeking last-chance cures and volunteers testing cutting-edge therapies. More information is posted on [https://www.washingtonpost.com/national/health-science/nih-would-see-huge-budget-cut-under-presidents-proposal/2017/03/15/8b6345cc-099e-11e7-93dc-00f9bdd74ed1\\_story.html?tid=a\\_inl&utm\\_term=.992245d24972](https://www.washingtonpost.com/national/health-science/nih-would-see-huge-budget-cut-under-presidents-proposal/2017/03/15/8b6345cc-099e-11e7-93dc-00f9bdd74ed1_story.html?tid=a_inl&utm_term=.992245d24972)

**NSF Slated for FY 2017 Cuts:** The National Science Foundation wasn't specifically addressed in the Trump administration's "skinny" FY 2018 budget. Nor was the National Institute of Standards and Technology, apart from the Manufacturing Extension Partnership. But they're not off the budget-cutters' radar, as the administration's FY 2017 [budget document](#), obtained by Politico, shows. For the remainder of the current fiscal year, NSF would lose \$350 million. "This level will reduce the number of grants awarded in the second half of FY17," the document states. NIST's Scientific and Technical Research and Services would lose \$40 million - requiring NIST to "prioritize its core metrology mission, scaling back on research initiatives that go beyond the core focus of the agency." Manufacturing USA/Industrial Technology Services would lose \$10 million. The remainder would "allow NIST to maintain its first awarded manufacturing institute, but will prevent NIST from awarding an additional institute in FY17. NIST's priority under Manufacturing USA will remain the coordination of existing institutes as well as the successful stand-up of its first manufacturing institute." More Information on the website <http://www.politico.com/f/?id=0000015b-14ec-d040-a17b-bf6ea7410001>

**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](https://www.grants.gov/documents/19/23905/GDG-Applicant%20Release%20Notes%2015.4.pdf)

**NIH Notice NOT-OD-17-003: Ruth L. Kirschstein National Research Service Awards (NRSA) Postdoctoral Stipends, Training Related Expenses, Institutional Allowance, and Tuition/Fees Effective for Fiscal Year 2017**

URL <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-17-003.html>

Related Announcements

[NOT-OD-16-134](#)

[NOT-OD-16-062](#)

National Institutes of Health ([NIH](#))

**Purpose:** The purpose of this Notice is to announce the process whereby recipients of Kirschstein-NRSA institutional training grant and individual fellowship awards supporting currently active postdoctoral trainees or fellows with 0, 1, or 2 years of experience as of December 1, 2016, will receive increased stipends. The Notice also provides instructions for requesting one-time supplemental funding to cover the stipend increase. As previously announced ([NOT-OD-16-134](#)), stipend levels for postdoctoral NRSA recipients with 0, 1 or 2 years of experience will be increased in furtherance of the NIH mission. This increase is distinct from a projected cost-of-living adjustment for postdoctoral stipends that is subject to the availability of FY 2017 appropriations.

**Webinar and Events**

**Event: NSF Webinar: Introduction to I-Corps Teams**

**When: April 4, 2017; 2.00 PM – 4.00 PM**

**Website:** [https://www.nsf.gov/events/event\\_summ.jsp?cntn\\_id=189701&org=NSF](https://www.nsf.gov/events/event_summ.jsp?cntn_id=189701&org=NSF)

**Brief Description: Abstract:** Curious about the NSF I-Corps program? Join this monthly introductory webinar to learn more about I-Corps Teams and how they contribute to the innovation ecosystem. During the webinar, I-Corps program directors will answer questions about I-Corps and provide updated information about I-Corps contacts, the [curriculum](#), important dates and other aspects of I-Corps. The I-Corps curriculum provides real-world, hands-on, immersive learning about what it takes to successfully transfer knowledge into products and processes that benefit society.

The webinar will be held the **first Tuesday of every month at 2:00 p.m., eastern time.**

**To Join the Webinar:** First, access the audio portion of the webinar by phone by calling (800) 857-5210 (for callers inside the U.S.) OR (210) 234-7080 (for callers outside the U.S.). The participant passcode is 3192939#

Second, access the [visual portion](#) of the webinar (WebEx meeting number 743 582 265):

- Go to <https://nsf.webex.com/nsf/j.php?MTID=m37c931eeb5d7a1c32e62c41975c03a2b> [Note: Firefox is recommended for Mac users.]
- If requested, enter your name and email address.
- If a password is required, enter the meeting password: I\_C0rp5!
- Click "Join".

You may download the slides in advance--[download the slides](#) (PDF, 1.6 MB).

For assistance joining the meeting, go to <https://nsf.webex.com/nsf/mc> and click "Support" on the left navigation bar.

Note for first-time users: To check whether you have the appropriate players installed for UCF (Universal Communications Format) rich media files, go to <https://nsf.webex.com/nsf/systemdiagnosis.php>.

**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](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@](mailto: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\\_ev=click](https://www.nsf.gov/events/event_summ.jsp?cntn_id=191332&WT.mc_id=USNSF_13&WT.mc_ev=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](mailto: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](http://www.germaninnovation.org) or email at [events@germaninnovation.org](mailto:events@germaninnovation.org)

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## **Grant Opportunities**

### **National Science Foundation**

#### **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](mailto: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](mailto:fzhao@nsf.gov)
- Earnestine Psalmonds-Easter, Directorate for Education & Human Resources, telephone: (703) 292-8112, email: [epsalmon@nsf.gov](mailto:epsalmon@nsf.gov)
- Cheryl L. Eavey, Directorate for Social, Behavioral, and Economic Sciences, telephone: (703) 292-7269, email: [ceavey@nsf.gov](mailto:ceavey@nsf.gov)

**Grant Program: Thermal Transport Processes****Agency: National Science Foundation NSF PD 17-1406****RFP Website:**[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=505328&org=NSF&sel\\_org=NSF&from=fund](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505328&org=NSF&sel_org=NSF&from=fund)

**Brief Description:** The **Thermal Transport Processes** program is part of the **Transport Phenomena** cluster, which includes also 1) Combustion and Fire Systems; 2) Fluid Dynamics; and 3) Particulate and Multiphase Processes.

The **Thermal Transport Processes (TTP)** program supports engineering research projects that lay the foundation for new discoveries in thermal transport phenomena. These projects should either develop new fundamental knowledge or combine existing knowledge in thermodynamics, fluid mechanics, and heat and mass transfer to probe new areas of innovation. The program seeks transformative projects with the potential for improving our basic understanding, predictability and application of thermal transport processes. Projects should articulate the contribution(s) to the fundamental knowledge supporting thermal transport processes and state clearly the potential application(s) impact when appropriate. Projects that combine analytical, experimental and numerical efforts, geared toward understanding, modeling and predicting thermal phenomena, are of great interest. Collaborative and interdisciplinary proposals for which the main contribution is in thermal transport processes fundamentals are also encouraged. Priority is given to insightful investigations of fundamental problems with clearly defined economic, environmental and societal impacts.

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

**Letter of Intent:** Not Required

**Full Proposal Submission Due Date:** October 1, 2017 - October 20, 2017

**Contacts:** José Lage [jlage@nsf.gov](mailto:jlage@nsf.gov) (703) 292-4997

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**Grant Program: Nano-Biosensing****Agency: National Science Foundation NSF PD 17-7909****RFP Website:**[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=505340&org=NSF&sel\\_org=NSF&from=fund](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505340&org=NSF&sel_org=NSF&from=fund)

**Brief Description:** The **Nano-Biosensing** program is part of the Engineering Biology and Health cluster, which includes also 1) Cellular and Biochemical Engineering; 2) Engineering of Biomedical Systems; 3) Biophotonics; and 4) Disability and Rehabilitation Engineering. The **Nano-Biosensing** program supports fundamental engineering research on devices and methods for measurement and quantification of biological analytes. Proposals that incorporate emerging nanotechnology methods are especially encouraged. Areas of interest include:

- Multi-purpose sensor platforms that exceed the performance of current state-of-the-art devices.
- Novel transduction principles, mechanisms and sensor designs suitable for measurement in practical matrix and sample-preparation-free approaches. These include error-free detection of pathogens and toxins in food matrices, waterborne pathogens, parasites, toxins, biomarkers in body fluids, and others that improve human condition.
- Nano-biosensors that enable measurement of biomolecular interactions in their native states, transmembrane transport, intracellular transport and reactions, and other biological phenomena.



- Studies that examine intracellular measurements must include discussion on the significance of the measurement.

Proposals should clearly identify the proposed problem to be solved, describe why the proposed approach is superior to current available methods, and articulate the benefit of solving the identified problem for the society at large. Sensor designs that yield reliable measurements are encouraged. While sensitivity is important, it cannot be at the expense of reproducibility. Every application must include research strategies for addressing reproducibility of measurement and sensor response, as well as approaches that reduce errors. The program does not support applications with incremental improvements of existing approaches and technologies. Projects that do not include experimental characterization of sensor responses to biological analytes are discouraged, and may be returned without a review. Studies on surface functionalization and immobilization of bio-recognition molecules, and/or orientation of them are not encouraged. Research that is focused on new recognition chemistry is also discouraged. The novelty or potentially transformative nature of the research must be included in the Project Summary. The last line in Project Summary must include three key phrases that describe: (1) sensor transduction principles, (2) type of biological analytes, (3) potential application areas.

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

**Letter of Intent:** Not Required

**Full Proposal Submission Due Date:** October 1, 2017 - October 20, 2017

**Contacts:** Rajakkannu Mutharasan [rmuthara@nsf.gov](mailto:rmuthara@nsf.gov) (703) 292-4608

## 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](mailto: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.

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## **Department of Defense/US Army/DARPA/ONR**

**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**

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**Grant Program: Strategic Technologies**

**Agency: Department of Defense DARPA HR001117S0015**

**Website:**

[https://www.fbo.gov/index?s=opportunity&mode=form&id=886e670b8f5bc3deca1e612e60399483&tab=core&\\_cview=0](https://www.fbo.gov/index?s=opportunity&mode=form&id=886e670b8f5bc3deca1e612e60399483&tab=core&_cview=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](mailto:HR001117S0015@darpa.mil)

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**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](mailto:ellen.s.livingston@navy.mil)

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**Grant Program: Internet of Battlefield Things (IoBT) Collaborative Research Alliance (CRA)**

**Agency: Department of Defense USAMRAA W911NF-17-S-0005**

**Website:** <http://www.fbodaily.com/archive/2017/03-March/05-Mar-2017/FBO-04422799.htm>

**Brief Description:** The ability of the Army to understand, predict, adapt, and exploit the vast array of internetworked things that will be present of the future battlefield is critical to maintaining and increasing its competitive advantage. The explosive growth of technologies in the commercial sector that exploits the convergence of cloud computing, ubiquitous mobile communications, networks of data-gathering sensors, and artificial intelligence presents an imposing challenge for the Army. These Internet of Things (IoT) technologies will give our enemies ever increasing capabilities that must be countered, but commercial developments do not address the unique challenges that the Army will face in using them. The U.S. Army Research Laboratory (ARL) has established an Enterprise approach to address the challenges resulting from the Internet of Battlefield Things (IoBT) that couples multi-disciplinary internal research with extramural research and collaborative ventures. ARL intends to establish a new collaborative venture (the IoBT CRA) that seeks to develop the foundations of IoBT in the context of future Army operations. The Collaborative Research Alliance (CRA) will consist of private sector and government researchers working jointly to solve complex problems. The overall objective is to develop the fundamental understanding of dynamically-composable, adaptive, goal-driven IoBTs to enable predictive analytics for intelligent command and control and battlefield services. The Future Army will operate in a highly complex and rapidly changing environment, thus the U.S. Army's Operating Concept is to "Win in a Complex World". The Army must tackle wicked problems wherein objectives and constraints evolve in unpredictable ways. Complexity arises from the increasing heterogeneity, connectivity, scale, dynamics, functionality and interdependence of networked elements, and from the increasing velocity and momentum of

human interactions and information. Events now unfold in internet time, as noted by the Defense Science Board (DSB) 2014 Study on Decisive Army Strategic and Expeditionary Maneuver. In this context, future IoBTs will be significantly more complex than today's networked systems, and novel mathematical approaches and techniques will be needed to represent them, reason about them, understand their behaviors, and to provide predictive analytics in diverse and dynamic environments. The Army will use IoTs for diverse and dynamic missions and will require rapid deployment and adaptation in environments with high mobility, resource constraints, and extreme heterogeneity in both very dense and sparse environments. In addition to Things and IoTs that the Army owns and controls, it may also need to make use of IoTs that it does not own or fully control. A foundational problem to be addressed by the CRA is the fundamental understanding of how to learn and devise complex models of IoBT goals, networks, information, and analytics to enable intelligent command and control, and battlefield services. A critical issue embedded throughout all aspects of IoBTs is cyber physical security as the Army will need to use things it does not control (military (blue), adversary (red), civilian (gray)), accommodate deceptive data, and counter advanced persistent threats. ARL strongly believes that a joint collaborative approach by multidisciplinary researchers is required to make fundamental advances towards meeting the CRA goal to develop a fundamental understanding of IoBTs. ARL has identified three interrelated Research Areas (RAs) that when jointly studied will advance the theoretical foundations of IoBTs in the context of future Army operations. • Discovery, Composition and Adaptation of Goal-Driven Heterogeneous IoBTs • Autonomic IoBTs to Enable Intelligent Services • Distributed Asynchronous Processing and Analytics of Things In addition to these three RAs, Cyber-Physical Security has been identified as a Cross-Cutting Research Issue (CCRI) that is inherent in each of the RAs and that must be jointly studied with the RAs to make fundamental advances in IoBTs. The CRA is intended to create a collaborative environment that enables the Alliance to advance the state-of-the-art and to take advantage of the diverse scientific capabilities and viewpoints of both the private sector and government researchers. The CRA will work collaboratively with ARLs Enterprise research programs to identify areas where joint, multi-disciplinary, collaborative research is advantageous. Continuous collaboration, technical exchanges, site visits, and staff rotations will strengthen and improve the CRA research and its Army relevance.

**Awards:** Various; Estimated Funding Available: \$70,000,000

**Full Proposal Deadline:** Applications for this cooperative agreement are due July 27, 2017.

**Contact Information:** Niko Georgakopoulos, Phone: 9195410817 [nikolaos.georgakopoulos.civ@mail.mil](mailto:nikolaos.georgakopoulos.civ@mail.mil)

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**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&cvview=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](#)

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## **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. EERE will not pay for information provided under this RFI and no project will be supported as a result of this RFI. This RFI is not accepting applications for financial assistance or financial incentives.

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

**Contact Information:** [solar.decathlon@ee.doe.gov](mailto: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](mailto:EERE-ExchangeSupport@hq.doe.gov) For technical assistance with EERE Exchange.

## NASA

### **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](mailto:nspires-help@nasaprs.com) or (202) 479- 9376)

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### **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](mailto:Tsengdar.J.Lee@nasa.gov) , Telephone: 202-358-0860

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## **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](mailto: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.

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## **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](mailto: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.

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