

NJIT Research Newsletter

Issue: ORN-2017-10

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: Faculty Research Showcase and Presidential Forum

When: March 28, 2017; 10.00 AM – 2.30 PM

Where: Ballroom A/B/Gallery

Keynote Speaker: James Gallarda, PhD, Senior Program Officer, Diagnostics at Bill & Melinda Gates Foundation

Event: College of Science and Liberal Arts Distinguished Seminar: Equity vs. Excellence: A False Dichotomy in Science and Society

When: March 29, 2017; 2.30 PM – 4.00 PM

Where: Campus Center Atrium

Speaker: Dr. Sylvester James Gates, Jr., Distinguished Professor of Physics, University of Maryland

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

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

Where: Ballroom A/B/Atrium

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

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: Enhancing Science, Technology, Engineering, and Math Educational Diversity (ESTEEMED) Research Education Experiences (R25); NIDCD Research Grants for Translating Basic Research into Clinical Tools (R01); Cancer Tissue Engineering Collaborative Enabling Biomimetic Tissue-Engineered Technologies for Cancer Research (R01)

Department of Defense/US Army/DARPA/ONR: 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); Quantum Computing Research in New and Emerging Qubits

Department of Energy: Solar Decathlon 2019 Future Planning - Request for Information; Stewardship Science Academic Alliances (SSAA) Program

NASA: ROSES 2017: Heliophysics Data Environment Enhancements; ROSES 2017: Research Opportunities in Space and Earth Science

National Endowment of Humanities: Humanities Access Grants Digital Humanities Advancement Grants

Recent Research Grant and Contract Awards

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

PI: Chase Wu (PI)

Department: Center for Big Data

Grant/Contract Project Title: Robust Network Fusion Algorithms for Detection of Radiation Sources

Funding Agency: DOE

Duration: 09/11/15-09/19/17

PI: James Lipuma (PI) and Bruce Bukiet (Co-PI)

Department: Humanities, Mathematical Sciences

Grant/Contract Project Title: Government Employee Interchange Act Agreement III 2017

Funding Agency: NIH

Duration: 01/01/17-05/31/17

PI: Tara Alvarez (PI), Bharat Biswal and Xiaobo Li
Department: Biomedical Engineering
Grant/Contract Project Title: Functional Mechanisms of Neural Control in Convergence Insufficiency
Funding Agency: NIH
Duration: 04/01/14-03/31/18

PI: Mesut Sahin (PI)
Department: Biomedical Engineering
Grant/Contract Project Title: Spinal Cord - Techniques Training Grant 2017
Funding Agency: NJDOH
Duration: 03/01/17-02/28/18

PI: Richard Foulds (PI)
Department: Biomedical Engineering
Grant/Contract Project Title: Kessler Foundation Research Agreement
Funding Agency: Kessler Foundation
Duration: 03/01/17-02/28/18

PI: Songhua Xu (PI)
Department: Information Systems
Grant/Contract Project Title: REU Site: Collaborative Research: Undergraduate Research in Computational Data Analytics for Advancing Human Services
Funding Agency: NSF
Duration: 05/01/17-04/30/20

PI: Bryan Pfister (PI)
Department: Biomedical Engineering
Grant/Contract Project Title: Linking How the Spatial and Temporal Motion of the Brain from High Rate and Impulse Loading Leads to Varying Types and Levels of Damage to Neuronal and Structure and Function
Funding Agency: US Army Research Laboratory
Duration: 10/01/16-09/30/18

In the News...

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

Multidisciplinary University Research Initiative (MURI) Program: The Multidisciplinary Research Program of the University Research Initiative (MURI) is one of the most significant sources of basic research funding for the university community. MURI is intended to support research by teams of investigators drawn from more than one traditional science and engineering discipline, often involving researchers from multiple academic institutions and academic departments. Funding opportunity N00014-17-S-F006 has now been released for FY18 MURI funding. The solicitation lists eight specific topics for the Army, Air Force, and Navy encompassing a broad range of research fields. White papers are due July 17. More Information on the website

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

New Proposed Budget Cuts for R&D Except Defense: In an effort to make up for some of that increased defense spending, the White House wants to cut the State Department and U.S. Agency for International Development by 28 percent. While that proposal is sure to face resistance from many in Congress, the State Department put out a statement today saying the proposal "advances the national security interests of the United States" while continuing to "support other critical foreign assistance efforts." President Trump's defense secretary, James Mattis, testified to Congress earlier this year that minimizing diplomacy comes with great risk. One of the largest proposed reductions hits the Environmental Protection Agency. Trump, who has in the past called global warming a "hoax," wants to reduce the agency's budget by 31 percent, or a total of \$2.6 billion. [Scott Pruitt](#), the agency's new director, created his own controversy last week when he said he does not believe carbon dioxide is a "primary contributor" to global warming, a view that stands in contrast from the agency he runs. The blueprint also calls for a 13 percent reduction in the Department of Education (\$9 billion) and a 17.9 percent decrease (\$15.1 billion) for the Department of Health and Human Services. More information is posted on <http://abcnews.go.com/Politics/trump-slash-state-department-budget-28-percent-shift/story?id=46151210>

NSF Announces New Proposal & Awards Policies & Procedures Guide (PAPPG): The new NSF PAPPG provides the policies and procedures for all proposals to be submitted on or after January 30, 2017. The *Proposal & Award Policies & Procedures Guide* (PAPPG) is comprised of documents relating to the Foundation's proposal and award process for the assistance programs of NSF. The PAPPG, in conjunction with NSF's Grant General Conditions, serves as the Foundation's implementation of 2 CFR § 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*. If the PAPPG and NSF Grant Conditions are silent on a specific area covered by 2 CFR § 200, the requirements specified in 2 CFR § 200 must be followed. Please see a summary of changes and complete PAPPG 2017 document on the NSF website https://www.nsf.gov/pubs/policydocs/pappg17_1/index.jsp.

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: Improving the Reproducibility of Computational Research

When: March 29, 2017; 2.00 AM – 3.30 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=191383&org=NSF

Brief Description: Abstract: As the data collection ability of nearly every area of science has ballooned, so has the potential for problematic research practices that can lead to irreproducible results. I will discuss a set of approaches that we are developing to address this reproducibility crisis in the context of human neuroimaging research. These include an integrated platform for the analysis and open sharing of neuroimaging data, frameworks for the description of data and metadata, and the use of software containers and virtual machines to enhance computational reproducibility. I will show how these approaches have the potential to enable a new era of reproducibility in science.

Bio: Russell A. Poldrack is the Albert Ray Lang Professor in the Department of Psychology at Stanford University, and Director of the Stanford Center for Reproducible Neuroscience. His research uses neuroimaging to understand the brain systems underlying decision making and executive function. His lab is also engaged in the development of neuroinformatics tools to help improve the reproducibility and transparency of neuroscience, including the OpenfMRI.org and Neurovault.org data sharing projects and the Cognitive Atlas ontology.

To view the webinar: Please register at: <http://www.tvworldwide.com/events/nsf/170329/>

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@stanford.edu

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](http://www.nsf.gov/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: careerwebinars@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

Event: NJIT College of Science and Liberal Arts Distinguished Seminar: Equity vs. Excellence: A False Dichotomy in Science and Society

When: March 29, 2017; 2.30 PM – 4.00 PM

Where: Campus Center Atrium

Abstract: Physicist Sylvester James Gates Jr. will deliver the spring 2017 College of Science and Liberal Arts Distinguished Speaker lecture: "Equity vs. Excellence: A False Dichotomy in Science and Society." The issue of diversity and its impact can be studied from an evidence-based, scientifically-enabled viewpoint. This discussion highlights one scientist's thinking about diversity and an opportunity in education within the confines of our nation's historical and traditional trajectory.

Speaker: Dr. Sylvester James Gates Jr. is a Distinguished University Professor, University System of Maryland Regents Professor and John S. Toll Professor of Physics at the University of Maryland. Also an affiliate mathematics professor, Gates is known for his pioneering work in supersymmetry and supergravity, areas closely related to string theory. Gates earned two Bachelor of Science degrees in physics and mathematics and his Ph.D. in physics from the Massachusetts Institute of Technology. In 1984, Gates co-authored Superspace, or One thousand and one lessons in supersymmetry, the first comprehensive book on supersymmetry, and joined the faculty at Maryland as an associate professor. Four years later, he became the first African American to hold an endowed chair in physics at a major U.S. research university.

The author of more than 200 research papers and a member of the National Academy of Sciences, Gates has been featured in dozens of video documentaries, including five in 2015. For his contribution to science and research, he received the National Medal of Science from President

Obama in 2013. Gates serves on the U.S. President's Council of Advisors on Science and Technology, the National Commission on Forensic Science, and the Maryland State Board of Education. He is a strong advocate for science, technology, engineering and mathematics education.

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 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
- Cheryl L. Eavey, Directorate for Social, Behavioral, and Economic Sciences, telephone: (703) 292-7269, email: 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

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 (703) 292-4997

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

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 (703) 292-4608

National Institutes of Health

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.

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.

Grant Program: NIDCD Research Grants for Translating Basic Research into Clinical Tools (R01)

Agency: National Institutes of Health PAR-17-184

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-184.html>

Brief Description: The objective of this FOA is to provide support for research studies that translate basic research findings into better clinical tools for human health. The application should seek to translate basic behavioral or biological research findings, which are known to be directly connected to a human clinical condition, to a practical clinical impact. Tools or technologies advanced through this FOA must overcome existing obstacles and should provide improvements in the diagnosis, treatment or prevention of a disease process. For the purposes of this FOA, the basic science advancement must have previously demonstrated potential for clinical impact and the connection to a human clinical condition must be clearly established. The research must be focused on a disease/disorder within one or more of the NIDCD scientific mission areas: hearing, balance, smell, taste, voice, speech or language.

Research conducted under this FOA is expected to include human subjects. Preclinical studies in animal models are allowed only for a candidate therapeutic that has previously demonstrated potential for the treatment of communication disorders. The scope of this FOA

allows for a range of activities encouraging the translation of basic research findings to practical impact on the diagnosis, treatment and prevention of deafness and other communication disorders.

Possible goals include, but are not limited to:

- Biochemical, electrophysiological and behavioral assays to enhance diagnostic capabilities.
- Pharmacology (toxicity) and pharmacokinetic studies for candidate therapeutics that have demonstrated potential for the treatment of communication disorders.
- Preclinical animal research for dosage studies and toxicity when a subsequent Phase I/II clinical trial is planned.
- Studies to test the efficacy of highly promising interventions in animal models of disease.
- Development of tools and techniques for better diagnostics or therapeutics, including but not limited, to drug delivery devices, neuro-electrical stimulators and recording devices.
- Development of screening tests, including biomarkers, to identify individuals at risk for a communication disorder to allow for early intervention.
- Development and testing of new tools to better target the treatment to the individual patient and to better predict patient response or prognosis.
- Development of sensitive and objective tools and technologies for clinical decision matrices.
- Development and testing of innovative prevention and treatment paradigms and processes using discoveries from biological, psychological, and social sciences.
- Development and testing of surgical techniques with the goal of providing better patient performance.
- Development and assessment of new data collection, measurement and recording instruments leading to better diagnostic, evaluation and assessment paradigms.
- Modification of laboratory measures of function or laboratory treatment protocols for use in clinical settings.

This FOA is not intended for outcomes/health services research, the extension of ongoing clinical studies, the optimization of current clinical protocols, or pre-translational studies (early stage proof of concept or developmental work premature to direct clinical relevance). Basic discovery research is not appropriate under this FOA.

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

Letter of Intent: 30 days before the application due date.

Deadline: October 18, 2017; June 19, 2018; February 20, 2019; October 18, 2019; June 18, 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: Cancer Tissue Engineering Collaborative: Enabling Biomimetic Tissue-Engineered Technologies for Cancer Research (R01)

Agency: National Institutes of Health PAR-17-171

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-171.html>

Brief Description: Biomimetic tissue-engineered technologies offer great precision and control of their physical and spatial parameters and components. These technologies bridge the discontinuity in cancer research models between two-dimensional (2D) and three-dimensional (3D) spheroid or cell-laden extracellular matrix in vitro systems and in vivo animal models. Limits

exist in the types of biological questions that can be answered with 2D and 3D systems due to the inability to replicate tissue-specific pathophysiology. On the other hand, limitations of in vivo animal models include costly assays and the challenge of precisely controlling experimental variables of the tumor microenvironment, such as spatial, molecular, and physical information. To address these limitations of conventional in vitro systems and in vivo animal models, well-characterized tissue-engineered in vitro systems that incorporate tissue pathology and physiology are needed within the cancer model continuum.

This FOA will support the development and characterization of state-of-the-art biomimetic tissue-engineered technologies for cancer research. *Critical to this FOA will be characterizing the biological relevance of the tissue-engineered technologies.* Applicants will be expected to take a novel engineering approach to define the critical features and parameters for the proposed system, how they are sufficient to mimic the physiology and pathology of the specific cancer question under study, and what characterization will be needed to validate the biological relevance of the system. Characterization could include the demonstration of relevant tissue structure, tumor biology, pathology, and physiological function that replicate the aspect of tumor biology that will be studied using the proposed system. The long-term goal is that the technologies might begin to have novel applications addressing questions in cancer biology, prevention, early detection of aggressive cancer, diagnosis and therapy.

Possible research areas of emphasis include the development and characterization of tissue-engineered biomimetic technologies, such as the following:

- Engineered native and/or synthetic scaffolds (e.g., hydrogels, nanofibers, 3D printing, decellularized matrix), bioreactors, and microfluidic devices to better understand the role of the structure and spatial organization in cancer initiation, progression, and treatment. The biomimetic systems could incorporate functionalized biomaterials that mimic tumor properties and are designed to probe cellular behaviors such as crowding, coupled interactions and/or cooperativity, and autocrine/paracrine behaviors at the molecular and cellular length scales.
- Cellular, mechanical, and secreted chemical factors of the tumor microenvironment such as stromal cells, exosomes, immune components, gradients of cytokines, growth factors and hormones, oxygen tension, pH, and extracellular matrix structure.
- Perfusion, lymphatics, interstitial pressure, passive flow, or immobile and soluble gradients to study the role of tumor physiology and immune responses on cancer biology, diagnosis, and treatment. Molecular probes could be incorporated to obtain quantitative and dynamic functional measurements.
- Technologies to facilitate measurements of bi-directional signaling, stresses, and dynamics of complex tumor systems, such as responsive materials, molecular probes, or genome editing tools that can be regulated or monitored with minimal invasiveness. Integration of advanced imaging modalities could allow visualization of dynamic cell and tissue processes across space and time.
- Engineered tissues capable of long-term culture to examine cancer initiation and dormancy over several weeks.
- Coupling with computational models to understand the emergence of tumor form, function, and heterogeneity from genetic or spatial information.
- Multi-organ engineered culture systems to probe organ-to-organ interactions during cancer progression and treatment.
- Systems to model cancer progression from pre-neoplastic lesions to invasive and metastatic disease; to develop biomimetic systems amenable to imaging for early detection

of aggressive cancer, diagnosis and prognosis; and to select preventive and therapeutic agents.

Awards: Budgets are limited to \$400,000 Direct Costs per year. Application budgets should reflect the actual needs of the proposed project.

Letter of Intent: 30 days before the application due date.

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

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

Department of Defense/US Army/DARPA/ONR

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: 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

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](#)

Grant Program: Quantum Computing Research in New and Emerging Qubits & Cross-Quantum Systems Science & Technology

Agency: US Army Research Laboratory W911NF-17-S-0001

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

<http://www.arl.army.mil/www/pages/8/NEQST%20CQTS%20Final%20BAA.pdf>

Brief Description: The U.S. Army Research Office (ARO) in collaboration with the Laboratory for Physical Sciences (LPS) is soliciting proposals for research in two focused topic areas: (A) new and emerging qubit science and technology (NEQST) and (B) cross quantum technology systems (CQTS). NEQST focuses on qubit systems that explore new operating regimes and environments, fundamentally new methods of fabrication, and new methods of design, control, or operation. These explorations should have in mind the development of quantum computation where the novel properties of these systems create significant advantages in coherence, fabrication, and/or qubit operation over current state-of-the-art qubits. While NEQST focuses on developing new qubit and quantum gate technologies, CQTS focuses on combining existing disparate quantum technologies to provide functionality that significantly improves the performance of, or adds capability to, any of the individual qubit types. Topics of particular interest are quantum state transfer (e.g. microwave-to-optical), novel classical control paradigms, and quantum memories. (Note: this BAA is concerned only with the circuit model of quantum computation).

Awards: Various; Available Funding: \$14,000,000

Full Proposal Deadline:

- **Whitepapers due:**
 - 4:00 p.m. EDT, Friday, April 28, 2017
- **2017 Deadline for Questions on PA - 1 April 2017**
- **RSVP deadline - Noon Eastern Standard Time 28 Feb 2017**

Contact Information: Bryan Ash Contracts Specialist Phone 919-549-4268
[Point of Contact](#)

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 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.

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 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: Humanities Access Grants****Agency: National Endowment of Humanities****Website:** <https://www.neh.gov/grants/challenge/humanities-access-grants>

Brief Description: Humanities Access grants help support capacity building for humanities programs that benefit one or more of the following groups: **children, family, and young adults** (defined to include those between ages 18 and 30).

Humanities Access grants provide funding for existing programs at institutions such as public libraries, local and regional museums, historical societies, community colleges, four-year colleges and universities, archival repositories, and other cultural organizations.

Programs supported by Humanities Access grants have included, for example

- a young readers' initiative sponsored by a state humanities council;

- a “family conversations” program at a rural historical society connecting the area’s cultural and natural resources; and
- internships for students at a liberal arts college to work in local cultural organizations during the summer.

Humanities Access Grants offer **two years of match-based funding. All funds must be expended by the end of the grant period.** Humanities Access grant funds should not be used to replace existing program funds. Instead, the grant should expand or enhance an existing exemplary humanities program.

Awards: NEH will offer successful applicants a one-to-one matching grant of either \$50,000 or \$100,000 divided evenly over the first two years of the three-year grant. The grant amount that applicants request should be appropriate to the humanities needs and the fundraising capacity of the institution.

Proposal Deadline: May 3, 2017

Contact: Contact the staff of NEH’s Office of Challenge Grants at 202-606-8309 or at challenge@neh.gov. 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.
