

NJIT Research Newsletter

Issue: ORN-2017-15

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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Streamlyne Update

Research proposals are being successfully submitted through Streamlyne. Submissions to Grants.gov are now submitted through Streamlyne directly as System-to-System (S2S). New “How to Do” videos have been posted on the research website <http://www5.njit.edu/research/streamlyne/>. These videos show step-by-step process on the following tasks:

- ◆ [How to Begin Proposal Submission in Streamlyne](#)
- ◆ [How to Input Proposal Budget](#)
- ◆ [How to Process Approvals](#)
- ◆ [How to Upload Proposal Attachments](#)

More “How to Do” videos will be posted in the future. In addition, most Frequently Asked Question (FAQs) from PIs are posted with answers on the same website as [Streamlyne FAQs](#)

Faculty and staff having any questions on proposal submission, may contact their college representatives, and also follow up with **Justin Samolewicz, Associate Director (Pre Award)** 973-596-3145; justin.m.samolewicz@njit.edu; and **Eric Hetherington, Director, Sponsored Research Programs Administration** 973-596-3631; eric.d.hetherington@njit.edu. The college representatives to help PIs on proposal submissions are

John McCarthy, NCE Director of Research
(973) 596-3247; john.p.mccarthy@njit.edu

Cristo Leon, CSLA Director of Research
(973) 596-6426; cristo.e.yanezleon@njit.edu

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

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

Federal Challenges & Prizes: Innovation through Research

If you are interested, please contact Atam Dhawan, Vice Provost for Research at dhawan@njit.edu. The Office of Research will be happy to work with faculty, staff and students towards team and proposal development as needed.

Challenge: Demonstrate Solutions That Improve Hearables' Clarity of Conversation in Noisy Settings

Posted By: [National Science Foundation](#)

Category: [Software/Apps](#)

Skill: [Algorithms](#)

Interest: [Health](#)

Submission Dates: 4 p.m. ET, Apr 25, 2017 - 5 p.m. ET, Jun 26, 2017

Judging Dates: Jun 27, 2017 - Sep 01, 2017

Website: <https://www.challenge.gov/challenge/hearables-challenge/>

Prizes: First Prize: \$80,000; Second Prize: \$60,000; Third Prize: \$3,000; Fourth Prize: \$3,000

Program Contact: Wendy Nilsen, wnilsen@nsf.gov

Brief Description: Think about your friends, family, neighbors, and co-workers. You probably know someone with hearing loss—an elderly grandparent or a veteran who served our country—and you probably know how hearing loss impacts one's ability to communicate. According to the Committee on Accessible and Affordable Hearing Health Care for Adults, there are 30 million Americans over 12 that have hearing loss, and hearing loss worsens as we age. Many with hearing loss do not seek or receive hearing health care because of cost, availability of services, stigma, lack of realization that they have hearing loss, and belief that nothing can help them.

While some hearable technologies (i.e., hearing aids and assistive listening devices) can enhance hearing for many individuals, there are situations where these technologies do not perform optimally. One particularly challenging situation for people with hearing impairment is understanding conversation in a noisy environment such as a restaurant. Inability to hear clearly because of background noise and intermittent peaks in noise makes following a conversation difficult. Amplification of speech sounds will also amplify the background noise.

The National Science Foundation seeks solutions to process audio data to augment speech recognition in noisy environments. The goal of this challenge is to demonstrate solutions such as algorithms or methods that improve clarity of conversation in a noisy setting.

ELIGIBILITY: Responses from companies (small to large), academic researchers, other research institutes, consultants, venture capitalists, entrepreneurs or inventors are welcome. However, in order to be eligible to win a prize under the Competition, an individual or entity must:

1. Register to participate in the Competition under the rules promulgated by the NSF.
2. Comply with all requirements in this section.
3. Be at least 18 years old at the time of submission.
4. In the case of a private entity, shall be incorporated in and maintain a primary place of business in the United States.
5. In the case of an individual, whether participating singly or in a group, shall be a citizen or permanent resident of the United States.
6. Shall not be a Federal entity or Federal employee acting within the scope of their employment.
7. Shall not be an employee or family member of the Sponsor and/or the Administrator, or any of their respective affiliates and subsidiaries.

8. Shall not be affiliated with any judge on the review panel. In the case of a private entity, no judge currently serves as a director, officer, or employee of the entity. In the case of a private individual, the individual shall not have a close family or professional relationship with any judge.
9. Federal grantees may not use Federal funds to develop Competition applications unless consistent with the purpose of their grant award.
10. Federal contractors may not use Federal funds from a contract to develop Competition applications or to fund efforts in support of a Competition submission.

Challenge: The Healthy Behavior Data Challenge Will Harness This Potential And Identify Feasible Alternative Options For Collecting Health-Related Behaviors In New Ways.

Posted By: [Centers for Disease Control and Prevention](#)

Category: [Ideas](#)

Skill: [Ideas](#)

Interest: [Health](#)

Submission Dates: 12:05 p.m. ET, Apr 28, 2017 - 12 a.m. ET, Jan 15, 2018

Winners Announced: Mar 05, 2018

Website: <https://www.challenge.gov/challenge/the-healthy-behavior-data-challenge/>

Prizes: Phase I (Prototype Development): \$30,000.00

Phase II (Prototype Implementation)\$70,000.00

Brief Description: The Centers for Disease Control and Prevention (CDC) located within the Department of Health and Human Services (HHS) announces the launch of the Healthy Behavior Data Challenge. The Healthy Behavior Data Challenge responds to the call for new ways to address the challenges and limitations of self-reported health surveillance information and tap into the potential of innovative data sources and alternative methodologies for public health surveillance. The Healthy Behavior Data (HBD) Challenge will support the development and implementation of prototypes to use these novel methodologies and data sources (e.g., wearable devices, mobile applications, and/or social media) to enhance traditional healthy behaviors surveillance systems in the areas of nutrition, physical activity, sedentary behaviors, and/or sleep among the adult population aged 18 years and older in the US and US territories.

The collection of health data through traditional surveillance modes including telephone and in-person interviewing, however, is becoming increasingly challenging and costly with declines in participation and changes in personal communications. In addition, the self-reported nature of responses particularly in the areas of nutrition, physical activity, sedentary behaviors, and sleep has been a major limitation in these surveillance systems, since self-reported data are subject to under/over reporting and recall bias. Meanwhile, the advent of new technologies and data sources including wearable devices (such as: smart watches, activity trackers, sleep monitors, etc.), mobile health applications on smartphones or tablets, and data from social media represents an opportunity to enhance the ability to monitor health-related information and potentially adjust for methodological limitations in traditional self-reported data.

The Healthy Behavior Data (HBD) Challenge will be conducted concurrently with a similar challenge proposed by the Public Health Agency of Canada. This will enable the two countries to learn from their respective challenges and leverage information. We expect increased efficiency with a dual challenge.

The Healthy Behavior Data Challenge participants will propose data sources and approaches for aggregating data from wearable devices, mobile applications and/or social media in the areas of nutrition, physical activity, sedentary behaviors, and/or sleep. In Phase II (Prototype Implementation), a subset of submissions (up to 3) with promising concepts will be invited to test their proposed approaches for ongoing public health surveillance.

Challenge: Do You Have The Most Accurate Unconstrained Face Recognition Algorithm?

Posted By: [Intelligence Advanced Research Project Activity](#)

Category: [Software/Apps](#)

Skill: [Software/Apps](#)

Interest: [Science & Research](#)

Partnership With: [National Institute of Standards and Technology](#)

Submission Dates: 12 a.m. ET, Apr 21, 2017 - 2 p.m. ET, Jun 15, 2017

Judging Dates: Sep 01, 2017 - Sep 30, 2017

Winners Announced: Oct 31, 2017

Website: <https://www.challenge.gov/challenge/face-recognition-prize-challenge/>

Prizes: Search Accuracy Prize: \$25,000.00

Search Speed Prize: \$5,000.00

Verification Prize: \$20,000.00

Brief Description: Have you developed software to identify faces in general web photographs? Can your software verify that a face in one photograph is the same as in another? The Intelligence Advanced Research Projects Activity (IARPA), within the Office of the Director of National Intelligence (ODNI), announces the launch of the Face Recognition Prize Challenge (FRPC). The challenge aims to improve biometric face recognition by improving core face recognition accuracy. IARPA focuses on high-risk, high-payoff research. The Face Recognition Prize Challenge will improve recognition of face images acquired without capture constraints (i.e., unconstrained images or images in the “wild”).

The goal of the Face Recognition Prize Challenge is to improve core face recognition accuracy and expand the breadth of capture conditions and environments suitable for successful face recognition. The Challenge comes in two parts: 1) Face identification involves executing one-to-many search to return the correct entry from a gallery, if any; 2) Face verification requires the algorithm to match two faces of the same person while correctly rejecting faces of different persons. Both tasks involve “non-cooperative” images where subjects were unaware of the camera or, at least, did not engage with, or pose for, the camera.

Other Challenge on Website <https://www.challenge.gov/challenge/>

Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

NSF: Tectonics; Mathematical Sciences Research Institutes; Computer and Information Science and Engineering (CISE) Research Initiation Initiative (CRII); Biological and Environmental Interactions of Nanoscale Materials; Program: Ideas Lab: Practical Fully-Connected Quantum Computer Challenge (PFCQC)

NIH: Revision Applications for Regenerative Medicine Innovation Projects (RMIP) (R01); NIH Director's Transformative Research Awards (R01); NIH Director's Pioneer Award Program (DP1); NIH Director's New Innovator Award Program (DP2); NIH Director's Early Independence Awards (DP5); NICHD Exploratory/Developmental Research Grant (R21); NINDS Program Project Grant (P01); Innovative Research in Cancer Nanotechnology (IRCN) (R01)

Department of Defense/US Army/DARPA/ONR: Ground Truth (GT); Communications and Networking Discovery and Invention; Biological Technologies; Lifelong Learning Machines (L2M);

System Security Integrated Through Hardware and firmware (SSITH); Metamaterial-based Optical System Design (RFI); Army Research Institute for the Behavioral and Social Sciences Broad Agency Announcement for Basic Scientific Research (2017)

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

NASA: ROSES 2017: Heliophysics Technology and Instrument Development for Science

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

Recent Research Grant and Contract Awards

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

PI: Samuel Lieber (PI)

Department: Engineering Technology

Grant/Contract Project Title: Advanced Manufacturing Research: Design and Manufacture of Extrusion Tooling

Funding Agency: NJ Precision Technologies, Inc.

Duration: 05/22/17-08/31/17

PI: James Britt Holbrook (PI)

Department: Humanities

Grant/Contract Project Title: EESE: Graduate Virtue Ethics Education in Science and Engineering

Funding Agency: NSF

Duration: 09/01/15-08/31/17

PI: John Federici (PI)

Department: Physics

Grant/Contract Project Title: NJSGC Summer Bridge Programs - Research in Physics at NJIT - 2017

Funding Agency: NSF

Duration: 02/01/17-12/31/17

PI: Colette Santasieri (PI)

Department: TBD

Grant/Contract Project Title: Planning and Coordination Services for the 2017 Northeast Sustainable Communities Workshop

Funding Agency: Brownfield Coalition of the Northeast (BCONE)

Duration: 12/12/16-07/31/17

PI: Siva Nadimpalli (PI)

Department: Mechanical and Industrial Engineering

Grant/Contract Project Title: Mechanics of Binder-Particle Interaction in Composite Battery Electrodes

Funding Agency: Office of Naval Research

Duration: 04/01/17-05/31/17

PI: Siva Nadimpalli (PI)

Department: Biological Sciences

Grant/Contract Project Title: 2017 MBI REU Undergraduate Summer Research Program

Funding Agency: NSF

Duration: 05/01/17-08/31/17

In the News...

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

Federal Budget and Research: Congress gave itself until next Friday, May 5, to complete a trillion-dollar appropriations measure that will control spending until September 30. The coming days will determine whether drastic cuts to domestic programs - including research funding - proposed by the Trump White House go into effect or if the U.S. government keeps running for the remainder of fiscal 2017 pretty much as it has since last year. Status quo spending levels would require the new administration and its allies to postpone attempting a big budget impact until FY 2018. [Reuters reports](#) that Republican and Democratic negotiators have discussed a possible \$15 billion defense spending hike. "It was unclear whether Democrats will continue to insist other domestic programs get a similar funding increase." The news agency said "there were no guarantees they would be able to find common ground that would prevent parts of the government from shutting down on May 6." More information on <http://www.reuters.com/article/us-usa-budget-idUSKBN17U26B>

Defense R&D: Three familiar Pentagon officials, Deputy Secretary of Defense Robert O. Work, William B. Roper, Jr., director of the Strategic Capabilities Office, and Steven H. Walker, acting director of the Defense Advanced Research Projects Agency (DARPA), appear before [Senate appropriators](#) Wednesday, May 3 for a review of defense innovation and research. Recent attention has focused on the [Third Offset Strategy](#) and such initiatives as Explainable Artificial Intelligence (XAI), which "aims to create a suite of machine learning techniques that . . . produce more explainable models, while maintaining a high level of learning performance (prediction accuracy)." More information is posted on http://www.realcleardefense.com/articles/2016/02/16/what_is_the_third_offset_strategy_109034.html

SBIR and STTR: The popular Small Business Innovation Research and Technology Transfer programs are currently authorized through fiscal 2022, but two House committees want to make "minor adjustments and improvements." They plan a [hearing May 4](#) to discuss "potential improvements to help stimulate commercialization rates, modify reporting requirements that improve data collection, and ensure agencies are utilizing all of the tools available to help transition SBIR and STTR technology into larger contracts" More information on https://smallbusiness.house.gov/uploadedfiles/5-4-17_hearing_notice.pdf

Innovation through Research and Development in Manufacturing: The Government Accountability Office (GAO) identified 58 programs in 11 federal agencies that reported providing support to U.S. manufacturing by fostering innovation through research and development, assisting with trade in the global marketplace, helping job seekers enhance skills and obtain employment, and providing general financing or business assistance. Twenty-one of these programs reported using all of their obligations in fiscal year 2015 to support U.S. manufacturing. For these 21 programs, obligations of each program ranged from \$750,000 to \$204 million in fiscal year 2015,

the most recent full year of data. Twenty-six other programs reported using funding to support manufacturing—in addition to other sectors—and provided ranges of estimates for the obligations directly supporting manufacturing. The remaining 11 programs either did not provide an estimate of their support to manufacturing or reported no program obligations in fiscal year 2015. GAO also identified nine tax expenditures that can provide benefits to manufacturers, amounting to billions of dollars in incentives for both the manufacturing sector and other sectors of the economy. More information is posted on <http://www.gao.gov/products/GAO-17-240>

Big Data Supplement Funding from NSF: Japan Science and Technology Agency (JST) Collaborative Research: "The National Science Foundation's Directorate for Computer and Information Science and Engineering (CISE) and the Japan Science and Technology Agency's (JST) Big Data Priority Program have facilitated cross-agency research capacity-building in the areas of big data and cyber-physical systems (CPS) via principal investigator (PI) meeting participation. . . . NSF-CISE is encouraging the submission of supplemental funding requests (of up to \$15,000 each, covering travel, lodging and subsistence) to strengthen and expand collaborations between NSF- and JST-funded PIs in shared priority areas. CISE anticipates awarding up to 10 such supplemental funding requests in FY 2018." More with Deal Colleague Letter on https://www.nsf.gov/pubs/2017/nsf17077/nsf17077.jsp?WT.mc_id=USNSF_179

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)

Webinar and Events

Event: NSF Webinar: Understanding SBIR & STTR Phase I Application Process

When: May 4, 2017; 2.00 PM – 4.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=191446&org=NSF

Abstract: Join this webinar to learn more about what you need to submit an application for NSF Small Business Innovation Research / Small Business Technology Transfer (SBIR/STTR) funding. SBIR Program Director Ruth Shuman will walk you through the process and answer questions. **Advance registration is required; to register visit:** <http://bit.ly/2nYgTiJ>
Prior to the webinar, feel free to browse our [YouTube channel](#) and [our website](#) to see if you're a good fit.

§ [SBIR Solicitation](#) (Due June 14, 2017)

§ [STTR Solicitation](#) (Due June 14, 2017)

The National Science Foundation (NSF) awards nearly \$190 million annually to startups and small businesses through the Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) program, transforming scientific discovery into products and services with commercial and societal impact. The equity-free funds support research and development (R&D) across almost all areas of science and technology helping companies de-risk technology for commercial success. The NSF is an independent federal agency with a budget of about \$7 billion that supports fundamental research and education across all fields of science and engineering. For more information, visit www.nsf.gov/SBIR.

Contact: Ruth Shuman, rshuman@nsf.gov

Event: DARPA: BRICS (Biological Robustness in Complex Settings) Part 2 Webinar

When: May 8, 2017; 1.00 PM – 3.00 PM

Website: <https://www.fbo.gov/spg/ODA/DARPA/CMO/DARPA-SN-17-36/listing.html>

Abstract: DARPA seeks innovative approaches to the development of engineered Forensic Microbial Systems (FMS) that may be deployed in complex environments to create unique microbial signatures for environmental forensics operations. This event will provide critical information on the program vision, the program objectives, and opportunities associated with the development of an interdisciplinary proposal to respond to the BAA (not yet posted).

Please register: <http://events.sa-meetings.com/BRICS2ProposersDay> no later than May 3, 2017 at 4:00 PM ET.

Event: NSF CAREER Program Webinar

When: May 22, 2017; 1.00 PM – 3.00 PM

Website:

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

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

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

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

How to Submit Questions

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

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

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

Event: Falling Walls Lab New York Forum

Where: German House, 871 United Nations Plaza, New York

When: September 14, 2017

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

Grant Opportunities

National Science Foundation

Grant Program: Tectonics

Agency: National Science Foundation NSF 17-555

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17555/nsf17555.htm>

Brief Description: The Tectonics Program supports a broad range of field, laboratory, computational, and theoretical investigations aimed at understanding the deformation of the terrestrial continental lithosphere (i.e. above the lithosphere-asthenosphere boundary). The Program focuses on deformation processes and their tectonic drivers that operate at any depth within the continental lithosphere, on time-scales of decades/centuries (e.g. active tectonics) and longer, and at micro- to plate boundary/orogenic belt length-scales.

Awards: Standard Grants. **Anticipated Funding Amount:** \$9,250,000

Letter of Intent: Not Required

Full Proposal Submission Due Date: Proposals Accepted Anytime after July 24, 2017

Contacts: David M. Fountain, Program Director, 785 N, telephone: (703) 292-4751, fax: (703) 292-9025, email: dfountai@nsf.gov

Stephen S. Harlan, Program Director, 785 N, telephone: (703) 292-7707, fax: (703)292-9025, email: sharlan@nsf.gov

Grant Program: Mathematical Sciences Research Institutes**Agency: National Science Foundation NSF 17-553****RFP Website:** <https://www.nsf.gov/pubs/2017/nsf17553/nsf17553.htm>

Brief Description: Mathematical Sciences Research Institutes are national resources that aim to advance research in the mathematical sciences through programs supporting discovery and dissemination of knowledge in mathematics and statistics and enhancing connections to related fields in which the mathematical sciences can play important roles. Institute activities help focus the attention of some of the best mathematical minds on problems of particular importance and timeliness. Institutes are also community resources that involve a broad segment of U.S.-based mathematical sciences researchers in their activities. The goals of the Mathematical Sciences Research Institutes program include advancing research in the mathematical sciences, increasing the impact of the mathematical sciences in other disciplines, and expanding the talent base engaged in mathematical research in the United States.

Awards: Continuing Grants; Anticipated Funding Amount: \$30,000,000**Letter of Intent:** December 14, 2018**Full Proposal Submission Due Date:** March 14, 2019**Contacts:** Joanna Kania-Bartoszynska, telephone: (703) 292-4881, email: jkaniaba@nsf.govChristopher W. Stark, telephone: (703) 292-4869, email: cstark@nsf.govMary Ann Horn, telephone: (703) 292-4879, email: mhorn@nsf.gov**Grant Program: Computer and Information Science and Engineering (CISE) Research Initiation Initiative (CRII)****Agency: National Science Foundation NSF 17-552****RFP Website:**https://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=504952&ods_key=nsf17552

Brief Description: With the goal of encouraging research independence immediately upon obtaining one's first academic position after receipt of the PhD, the Directorate for Computer and Information Science and Engineering (CISE) will award grants to initiate the course of one's independent research. Understanding the critical role of establishing that independence early in one's career, it is expected that funds will be used to support untenured faculty or research scientists (or equivalent) in their first three years in a primary academic position after the PhD, but not more than a total of five years after completion of their PhD. One may not yet have received any other grants or contracts in the Principal Investigator (PI) role from any department, agency, or institution of the federal government, including from the CAREER program or any other program, post-PhD, regardless of the size of the grant or contract, with certain exceptions noted below. Serving as co-PI, Senior Personnel, Postdoctoral Fellow, or other Fellow does not count against this eligibility rule. Grants, contracts, or gifts from private companies or foundations; state, local, or tribal governments; or universities do not count against this eligibility rule.

It is expected that these funds will allow the new CISE Research Initiation Initiative PI to support one or more graduate students for up to two years. Faculty at undergraduate and two-year institutions may use funds to support undergraduate students, and may use the additional RUI designation (which requires inclusion of a RUI Impact Statement) -- see http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5518 for additional information. In addition, submissions from all institutions may use funds for postdoctoral scholars, travel, and/or research equipment.

Awards: Standard Grants**Letter of Intent:** Not Required

Full Proposal Submission Due Date: August 9, 2017

Contacts: Almadena Y. Chtchelkanova achtchel@nsf.gov (703) 292-8910

Ephraim P. Glinert eglinert@nsf.gov (703) 292-8930

Grant Program: Biological and Environmental Interactions of Nanoscale Materials

Agency: National Science Foundation NSF PD 18-1179

RFP Website:

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

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

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

Research areas supported by the program include:

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

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

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

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

INFORMATION COMMON TO MOST CBET PROGRAMS

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

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

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

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

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

Letter of Intent: Not Required

Full Proposal Submission Due Date: Anytime

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

National Institutes of Health

Grant Program: Revision Applications for Regenerative Medicine Innovation Projects (RMIP) (R01)

Agency: National Institutes of Health RFA-HL-17-029

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-HL-17-029.html>

Brief Description: Research projects responsive to this FOA are expected to involve both of the following: (1) human subjects or material of human origin, such as cells, tissues, and specimens; and (2) human stem cells that are not of embryonic or fetal origin. Research projects involving induced pluripotent stem (iPS) cells may be supported, as long as the cells used to generate iPS cells were not of fetal or embryonic origin. Applicable research on adult human stem cells may encompass, for example, research on biologics (e.g., growth factors, cytokines) and biomaterials (e.g., ECM, scaffolds) that stimulate host adult stem cell growth, differentiation, and function or otherwise directly act upon adult stem cells to support innate host healing mechanisms, treat disease, and/or restore function. Funding could be used, for example, for the appropriate chemistry, manufacturing, and controls development to support the production of such products for clinical trials using good manufacturing practices (GMP). Funds may not be used for research involving human cells of embryonic or fetal origin.

This FOA will support highly meritorious clinical research projects proposing to explore and enable the development of safe and effective RM interventions. Specifically, for FY 2017 funds, in addition to being subject to the standard NIH review criteria, clinical research projects for this FOA will also be assessed according to the following criteria:

- Contributes to breadth/diversity of RM science;
- Addresses critical issues relevant to clinical research and regulatory submissions including those related to product development. Areas of focus may include improved tools, methods, standards, or applied science that support a better understanding and improved evaluation of product manufacturing, quality, safety, or effectiveness; and

- Helps to significantly build or advance the field of RM by contributing to foundational knowledge while addressing a well-recognized challenge in clinical development including the development and evaluation of safe and effective RM products.

Research Examples

Applications that demonstrate potential to catalyze sustained and accelerated development of the RM field through contributing to the knowledge critical for product development, clinical testing, and data standards and sharing, are strongly encouraged. For example, such projects may:

- Further development of standards and GMP for adult stem cell-based RM products;
- Leverage extant cell production facilities for product preparation and qualification;
- Promote and enhance mechanisms for data standardization, curation, integration, and sharing;
- Utilize clinical trial network(s) to leverage infrastructure and facilitate subject recruitment and follow up as well as data sharing; and/or
- Contribute to a better and shared understanding of current technical and operational barriers as well as the regulatory science issues.

Awards: Application budgets should not exceed \$324,500 per year in direct costs. See details in [R&R or Modular Budget](#)

Letter of Intent: May 26, 2017

Deadline: June 26, 2017, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on this date.

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

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

Grant Program: NIH Director's Transformative Research Awards (R01)

Agency: National Institutes of Health RFA-RM-17-007

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-17-007.html>

Brief Description: The goal of the NIH Director's Transformative Research Award is to provide support for collaborative investigative teams or individual scientists who propose unusually innovative research projects, which, if successful, would have a major impact in a broad area of biomedical or behavioral research. To be considered transformative, projects must have the potential to create or overturn fundamental scientific paradigms through the use of novel approaches, to transform the way research is conducted through the development of novel tools or technologies, or to lead to major improvements in health through the development of highly innovative therapies, diagnostic tools, or preventive strategies. Consistent with this focus, applications supported under the Transformative Research Award will reflect ideas substantially different from mainstream concepts.

Several key features of this FOA have been designed to emphasize to applicants and peer reviewers that these applications are very different from conventional, investigator-initiated research awards. The application format, through its requirements for explicitly addressing specific issues, focuses attention on the importance of the problem, the novelty of the hypothesis and/or the proposed methodology, and the magnitude of the potential impact rather than on preliminary data or experimental details. Reviewers will be instructed to emphasize significance and innovation in their evaluations, and these criteria will be the primary basis for funding decisions. These features are intended to steer applicants and reviewers, at each step of the process, toward the goal of this initiative, which is to solicit and fund unusually bold and potentially transformative research.

Projects in any area of NIH interest, including basic, clinical, translational and behavioral studies, are encouraged and will be considered responsive to this FOA. Though technical and conceptual risks are expected in highly innovative projects, clinical research also must address potential risk to human subjects. Clinical researchers are encouraged to submit applications as long as rigorous assessment of participant risk/benefit ratios compellingly indicates the ratio to be in favor of the potential benefit. Many of the advances in public health have been achieved through clinical trials, which necessarily involve some risk to participating human subjects. NIH acknowledges the presence of such risk and has established a set of [clinical research ethics principles](#) that provides guidance regarding the risk/benefit ratio in clinical research. **Applicants proposing clinical research should contact Program staff at the [appropriate NIH Institute or Center \(IC\)](#) to ensure that their applications conform to IC-specific policies for clinical research.**

The NIH Director's [Transformative Research Award](#) is part of the [High-Risk, High-Reward Research program](#), which also includes the [NIH Director's Pioneer Award](#), the [NIH Director's New Innovator Award](#), and the [NIH Director's Early Independence Award](#). The program is part of the [NIH Common Fund](#), which supports cross-cutting efforts that are expected to have exceptionally high impact. All Common Fund initiatives invite investigators to develop bold, innovative, and often risky approaches to address problems that may seem intractable or to seize new opportunities that offer the potential for rapid progress.

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

Letter of Intent: Not required.

Deadline: September 15, 2017, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on this date.

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

Grant Program: NIH Director's Pioneer Award Program (DP1)

Agency: National Institutes of Health RFA-RM-17-005

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-17-005.html>

Brief Description: The [NIH Director's Pioneer Award](#) is part of the [High-Risk, High-Reward Research program](#), which also includes the [NIH Director's New Innovator Award](#), the [NIH Director's Transformative Research Award](#), and the [NIH Director's Early Independence Award](#). The program is part of the [NIH Common Fund](#), which supports cross-cutting programs that are expected to have exceptionally high impact. All Common Fund initiatives invite investigators to develop bold, innovative, and often risky approaches to address significant problems with no clear solution or to seize new opportunities that offer the potential for rapid progress.

To be considered pioneering, the proposed research must reflect ideas substantially different from those being pursued in the investigator's research program or being pursued elsewhere. The Pioneer Award is not intended to expand a current research program's funding in the area of the proposed project. While the research direction may have as its foundation the applicant's prior work and expertise, it cannot be an obvious extension or scale up of a current research enterprise which could be anticipated to be competitive as a new or renewal R01 application. Rather, the proposed project must reflect a fundamental new insight into the potential solution of a problem, which may derive from the development of exceptionally innovative approaches and/or from the posing of radically unconventional hypotheses. Applications for projects that are extensions of ongoing research should not be submitted.

Pioneer awardees are required to commit the major portion (at least 51%) of their research effort to activities supported by the Pioneer Award research project in the first three years of the project period. Effort expended toward teaching, administrative, or clinical duties should not be included in this calculation. Awardees will be allowed to reduce effort to 33% and 25% in the fourth and fifth years, respectively, to help them transition to other sources of support since Pioneer Awards cannot be renewed. Applicants with current research commitments exceeding 49% must provide a detailed explanation describing how their effort on existing grants will be adjusted to permit them to devote the required minimum effort to the Pioneer Award project. Applicants who will not be able to meet this requirement should not submit applications.

Awards: Awards will be for \$700,000 Direct Costs per year for up to 5 years.

Letter of Intent: Not required.

Deadline: September 1, 2017, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on this date.

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

Grant Program: NIH Director's New Innovator Award Program (DP2)

Agency: National Institutes of Health RFA-RM-17-006

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-17-006.html>

Brief Description: The NIH Director's New Innovator Award addresses two important goals: stimulating highly innovative research and supporting promising new investigators. New investigators may have exceptionally innovative research ideas, but not the preliminary data required to fare well in the traditional NIH peer review system. As part of NIH's commitment to increasing opportunities for new scientists, it has created the NIH Director's New Innovator Award to support exceptionally creative new investigators who propose highly innovative research projects that have the potential for unusually high impact. This award complements ongoing efforts by NIH and its Institutes and Centers to fund new investigators through R01 grants and other mechanisms.

The NIH Director's New Innovator Award is different from traditional NIH grants in several ways. It is designed specifically to support unusually creative investigators with highly innovative research ideas at an early stage of their career when they may lack the preliminary data required for an R01 grant application. The emphasis is on innovation and creativity; preliminary data are not required, but may be included. No detailed, annual budget is requested in the application. The review process emphasizes the individual's creativity, the innovativeness of the research approaches, and the potential of the project, if successful, to have a significant impact on an important biomedical or behavioral research problem.

The research proposed for a NIH Director's New Innovator Award may be in any scientific area relevant to the mission of NIH (biological, behavioral, clinical, social, physical, chemical, computational, engineering, and mathematical sciences). Investigators who were not selected for an award in prior years may submit applications this year as long as they retain their ESI (early stage investigator) eligibility; however, all applications must be submitted as "new" applications regardless of any previous submission to the program.

The [NIH Director's New Innovator Award](#) is part of the [High-Risk, High-Reward Research program](#), which also includes the [NIH Director's Pioneer Award](#), the [NIH Director's Transformative Research Award](#), and the [NIH Director's Early Independence Award](#). The program is part of the [NIH Common Fund](#), which supports cross-cutting programs that are expected to have exceptionally high impact. All Common Fund initiatives invite investigators to develop bold,

innovative, and often risky approaches to address problems that may seem intractable or to seize new opportunities that offer the potential for rapid progress.

Awards: Awards are multi-year funded, with all funds being disbursed in the first year of the award. Awards will be up to \$1,500,000 in direct costs (the equivalent of \$300,000 in Direct Costs each year for five years) plus applicable Facilities and Administrative (F&A) costs to be determined at the time of award.

Letter of Intent: Not required.

Deadline: September 8, 2017, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on this date. No late applications will be accepted for this Funding Opportunity Announcement.

Grant Program: NIH Director's Early Independence Awards (DP5)

Agency: National Institutes of Health RFA-RM-17-008

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-17-008.html>

Brief Description: The [NIH Director's Early Independence Awards](#) initiative is funded through the NIH Common Fund, which supports cross-cutting programs that are expected to have exceptionally high impact. All Common Fund initiatives invite investigators to develop bold, innovative, and often risky approaches to address major problems that are especially daunting or to seize new opportunities that offer the potential for rapid progress.

The NIH Director's Early Independence Awards provide an opportunity for exceptional junior scientists to accelerate their entry into an independent research career by forgoing the traditional post-doctoral training period. Though most newly graduated doctoral-level researchers would benefit by post-doctoral training, a small number of outstanding junior investigators would benefit instead by launching directly into an independent research career. For these select investigators, who have established a record of scientific innovation and research productivity and who have demonstrated unusual leadership, drive, and maturity, post-doctoral training would unnecessarily delay their entry into performing independent research. By the end of the award period, the Early Independence investigator is expected to be competitive for continued funding of his/her research program and for a permanent research-oriented position. The NIH Director's Early Independence Awards also provide an opportunity for institutions to invigorate their research programs by bringing in the fresh perspectives of the awardees that they host.

The NIH recognizes a unique and compelling need to promote diversity in the biomedical, behavioral, clinical and social sciences research workforce. The NIH expects all of its efforts to diversify the workforce to lead to the recruitment of the most talented researchers from all groups; to improve the quality of the educational and training environment; to balance and broaden the perspective in setting research priorities; to improve the ability to recruit subjects from diverse backgrounds into clinical research protocols; and to improve the Nation's capacity to address and eliminate health disparities. Applicant institutions are always encouraged to consider talented researchers from diverse backgrounds underrepresented in biomedical research, including underrepresented racial and ethnic groups, persons with disabilities and women for participation in all NIH-funded research opportunities.

Awards: Awards will be for up to \$250,000 in direct costs per year, plus applicable Facilities and Administrative (F&A) costs.

Letter of Intent: August 22, 2017

Deadline: September 22, 2017, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on this date.

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

Grant Program: NICHD Exploratory/Developmental Research Grant (R21)

Agency: National Institutes of Health PA-17-259

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PA-17-259.html>

Brief Description: The NICHD Exploratory/Developmental Grant program supports exploratory and developmental research projects that fall within the NICHD mission by providing support for the early and conceptual stages of these projects. These studies may involve considerable risk but may lead to a breakthrough in a particular area, or to the development of novel techniques, agents, methodologies, models, or applications that could have a major impact on a field of biomedical, behavioral, or clinical research.

The evolution and vitality of the biomedical, behavioral, and clinical sciences require a constant infusion of new ideas, techniques, and points of view. These may differ substantially from current thinking or practice and may not yet be supported by substantial preliminary data. Through the NICHD Exploratory/Developmental Research Grant Program, the NIH seeks to foster the introduction of novel scientific ideas, model systems, tools, agents, targets, and technologies that have the potential to substantially advance biomedical, behavioral, and clinical research within the NICHD scientific mission.

This program is intended to encourage new exploratory and developmental research projects. For example, such projects could assess the feasibility of a novel area of investigation or a new experimental system that has the potential to enhance health-related research. Another example could include the unique and innovative use of an existing methodology to explore a new scientific area.

Awards: Direct costs are limited to \$275,000 over a two-year period, with no more than \$200,000 in direct costs allowed in any single year.

Letter of Intent: Not required.

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

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

Grant Program: NINDS Program Project Grant (P01)

Agency: National Institutes of Health PAR-17-251

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-251.html>

Brief Description: The National Institute of Neurological Disorders and Stroke's program project grants (PPG) support investigator-initiated research programs, consisting of three or more highly interdependent projects, in which a team of investigators works in a clearly defined area of mutual scientific interest. In a program project, there should be a unifying, well-defined goal or targeted area of research to which each project relates and contributes, thereby producing a synergistic and collaborative research environment that allows each research project to share the creative strengths of the others. The applicants should present a compelling case in support of interrelated projects and collaborating investigators will yield results beyond those achievable if each project were pursued separately and without formal interaction among the participating investigators. The applicants should explain why the program project is required to achieve the proposed research goals, how reaching these goals may transform the field, and why the goals of the component projects cannot be achieved without significant contributions from the other

components. Overall, the applicants should demonstrate a clear and compelling case that the component projects require one another and the shared core facilities.

In keeping with its tradition of strong support of investigator-initiated research, the NINDS expects the PPG director to define the integrating theme and to develop the approaches that would be used to accomplish the objectives of the proposed research program. The theme of a program project could be, for example, basic research on regeneration and plasticity in the nervous system or basic and clinical research on a specific disease process; the unifying concept could be a hypothesis concerning the fundamental mechanisms that result in the clinical manifestations of the specific disease process.

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

Letter of Intent: Not required.

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: Ground Truth (GT)

Agency: Department of Defense DARPA HR001117S0031

Website:

https://www.fbo.gov/index?s=opportunity&mode=form&id=df054b645b2eee1f0bb2e8ed6d0d6074&tab=core&_cvview=0

Brief Description: The Defense Sciences Office at the Defense Advanced Research Projects Agency (DARPA) is soliciting innovative research proposals in the area of new simulation capabilities to test the accuracy and robustness of causal modeling methods for understanding human social systems and behaviors. Proposed research should investigate innovative approaches that enable revolutionary advances in social science modeling, simulation, and causal inference. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of practice.

Awards: Various.

Proposal Deadline:

Abstract Due Date: May 15, 2017, 4:00 p.m.

FAQ Submission Deadline: June 22, 2017, 4:00 p.m. See Section VIII.A.

Full Proposal Due Date: June 29, 2017, 4:00 p.m.

Contact Information: Dr. Adam Russell, Program Manager

GroundTruth@darpa.mil

Grant Program: Communications and Networking Discovery and Invention

Agency: Department of Defense ONR [N00014-17-S-B012](#)

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

Brief Description: Communications technology that can provide seamless, robust, connectivity is at the foundation of the Sea Power 21 and FORCEnet Vision "... to have the right information, at the right place, at the right time ..." The performance of Command and Control (C2) systems and decision making at all levels of command depend critically on reliable, interoperable, survivable,

secure, and timely communications and networking, and the availability of high capacity multimedia (voice, data, imagery) communication networks is fundamental to nearly all Department of Navy missions. The current evolution of naval warfighting from a platform-centric to a network-centric paradigm depends on successfully meeting the implied need for significantly enhanced communications and networking capabilities of C2, sensor and weapon systems. These systems are deployed on a variety of platforms and users, both manned and unmanned, operating under challenging battlefield conditions (lack of infrastructure, mobility, spectrum, interference, multipath, atmospheric, size/weight/power constraint, etc.) in different environments (space, terrestrial and undersea).

Awards: Various.

Proposal Deadline:

White Papers: 26 June 2017

Full Proposals: 25 September 2017

Contact Information: AnShawn Lewis Contract Specialist Phone 7036962025

Grant Program: Biological Technologies

Agency: Department of Defense DARPA HR001117S0030

Website:

<https://www.fbo.gov/index?s=opportunity&mode=form&id=91b94156bbad11c1cb1b8a8873510ed3&tab=core&cvview=0>

Brief Description: The Defense Advanced Research Projects Agency (DARPA) is soliciting innovative research proposals of interest to the Biological Technologies Office (BTO). Proposed research should investigate leading edge approaches that enable revolutionary advances in science, technologies, or systems at the intersection of biology with engineering and the physical and computer sciences. Specifically excluded is research that primarily results in evolutionary improvements to the existing state of the art. BTO seeks unconventional approaches that are outside the mainstream, challenge assumptions, and have the potential to radically change established practice, lead to extraordinary outcomes, and create entirely new fields. The mission of BTO is to foster, demonstrate, and transition breakthrough fundamental research, discoveries, and applications that integrate biology, engineering, computer science, mathematics, and the physical sciences. BTO's investment portfolio goes far beyond life sciences applications in medicine to include areas of research such as human-machine interfaces, microbes as production platforms, and deep exploration of the impact of evolving ecologies and environments on U.S. readiness and capabilities. BTO's programs operate across a wide range of scales, from individual cells to the warfighter to global ecosystems. BTO responds to the urgent and long-term needs of the Department of Defense (DoD) and addresses national security priorities.

Awards: Various.

Proposal Deadline: Proposal Abstracts and Full Proposals will be submitted on a rolling basis until April 26, 2018, 4:00pm ET

Contact Information: The BAA Coordinator for this effort may be reached at: BTOBAA2017@darpa.mil

Grant Program: Lifelong Learning Machines (L2M)

Agency: Department of Defense DARPA HR001117S0016

Website:

https://www.fbo.gov/index?s=opportunity&mode=form&id=557cc1ffdb7ef3a1a9792a890086c488&tab=core&_cview=0
<file:///Users/atamdhanan/Downloads/HR001117S0016.pdf>

Brief Description: DARPA is soliciting highly innovative research proposals for the development of fundamentally new machine learning approaches that enable systems to learn continually as they operate and apply previous knowledge to novel situations. Current AI systems only compute with what they have been programmed or trained for in advance; they have no ability to learn from data input during execution time, and cannot adapt on-line to changes they encounter in real environments. The goal of Lifelong Learning Machines (L2M) is to develop substantially more capable systems that are continually improving and updating from experience.

Awards: Various.

Proposal Deadline:

Proposers Day: March 30, 2017

Abstract Due Date: May 3, 2017 at 1:00PM

FAQ Submission Deadline: June 5, 2017 at 1:00PM

Proposal Due Date: June 21, 2017 at 1:00PM

Contact Information: Dr. Hava Siegelmann, Program Manager

BAA Email: HR001117S0016@darpa.mil

Grant Program: System Security Integrated Through Hardware and firmware (SSITH)

Agency: Department of Defense DARPA HR001117S0023

Website:

https://www.fbo.gov/index?s=opportunity&mode=form&id=ea2550cb0c42eb91c7292377824a58b7&tab=core&_cview=0

Brief Description: The overall goal of the SSITH program is to develop hardware design tools to provide inherent security against hardware vulnerabilities that are exploited through software in DoD and commercial electronic systems. SSITH aims to drive research required to develop secure hardware that constrains the hardware attack surface and protects against classes of software attacks that exploit hardware vulnerabilities.

Awards: Various.

Proposal Deadline: June 5, 2017 at 1:00 PM.

Contact Information: BAA Coordinator HR001117S0023@darpa.mil

Grant Program: Metamaterial-based Optical System Design (RFI)

Agency: Department of Defense DARPA DARPA-SN-17-42

Website:

https://www.fbo.gov/index?s=opportunity&mode=form&id=7284de399f2c403964e09b40295ef039&tab=core&_cview=0

Brief Description: DARPA/DSO is interested in extending the existing vast body of knowledge for classical optical design theory to the new space of metamaterial-based optical design theory and practice. The goal is not to simply reimplement classical optical design with metamaterials, but rather to define an entirely new architectural space that optimally utilizes the unique capabilities of these materials. Interested in responses that can be applied to a broad scope of optical systems. Relevant systems include, but are not limited to, imaging, non-imaging, reflective, refractive,

catadioptric, computational imaging systems, etc., operating in the visible and infrared wavebands.

Awards: Various.

Response Deadline: May 22, 2017 4:00 pm Eastern

Contact Information: Dr. Predrag Milojkovic DARPA-SN-17-42@darpa.mil

Grant Program: Army Research Institute for the Behavioral and Social Sciences Broad Agency Announcement for Basic Scientific Research (2017)

Agency: Department of Defense US Army W911NF-17-S-0007

Website:

<https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=ac68e8943e12786c0f680f489ec26fc1>

Brief Description: This Broad Agency Announcement (BAA) for the Foundational Science Research Unit (FSRU) of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) solicits new proposals for its fiscal year 2017 program of basic research in behavioral science. It is issued under the provisions of paragraph 6.102(d) (2) and 35.016 of the Federal Acquisition Regulation (FAR), which provides for the acquisition of basic and applied research and that part of development not related to the development of a specific system or hardware procurement through the competitive selection of proposals. 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 provisions of Public Law 98-369, Section 2701, "The Competition in Contracting Act of 1984" and subsequent amendments.

The U.S. Army Research Institute for the Behavioral and Social Sciences is the Army's lead agency for the conduct of research, development, and analyses for the improvement of Army readiness and performance via research advances and applications of the behavioral and social sciences that address personnel, organization, training, and leader development issues. The basic research program supports research projects that are designed to expand fundamental knowledge and discover general principles in the behavioral and social sciences. In addition to looking for proposals that provide for programmatic efforts to develop and evaluate psychological and behavioral theory, we strongly encourage Applicants to propose novel, state-of-the-art, and multidisciplinary approaches that address difficult problems. A key consideration in the decision to support a research proposal is that its findings are likely to stimulate new, basic behavioral research, which in turn, will lead to improved performance of Army personnel and their units. Proposals may address both traditional behavioral issues as well as psychophysiological (to include neuroscience) and network science approaches to social phenomena, memory, cognition, and personality. ARI cannot support proposals through this BAA that are primarily applied research projects (e.g., human factors studies or training program evaluations) or purely focused on physiology, psychopathology or behavioral health. Collaboration is encouraged among institutions of higher education (IHE's), non-profit organizations, commercial organizations, and the other U.S. Military Services. Funding of basic research proposals within ARI areas of interest will be determined by funding constraints and priorities set during each budget cycle.

A proposal should describe its contribution to theory and how its results might lead to basic behavioral research that would be meaningful to the Army. Those contemplating submission of a proposal are encouraged to submit a White Paper before submitting a full proposal. Submission of a White Paper before a full proposal allows earliest determination of the potential for funding and minimizes the labor and cost associated with the submission of a full proposal

that may have minimal probability of being selected for funding. Costs associated with a White Paper or full proposal submission in response to this BAA are not considered allowable direct charges to any resulting award. These costs may be allowable expenses to normal bid and proposal indirect costs specified in FAR 31.205-18. An Applicant submitting a proposal is cautioned that only a Government Contracting or Grants Officer may obligate the Government to any legal instrument involving expenditure of Government funds.

Awards: Contact the program officer.

Proposal Deadline: June 30, 2017

Contact Information: Maria D. Nelson, Contracting Officer
maria.d.nelson.civ@mail.mil , Phone: 9195414992

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/#Foaid72d17068-b4e5-4694-b1f7-ac3269743b1e>

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

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

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

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

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

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

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

Grant Program: ROSES 2017: Heliophysics Technology and Instrument Development for Science

Agency: NASA NNH17ZDA001N-HTIDS

Website:

<https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={4A1EA552-8429-A026-C2ED-26ADF5C25D66}&path=open>

Brief Description: NASA's heliophysics strategic objective is to understand the Sun and its interactions with the Earth and the solar system, including space weather. In this framework, the Heliophysics Research Program is guided by goals defined in the NASA 2014 Science Plan (available at <https://science.nasa.gov/about-us/science-strategy>) and the 2013 National Research Council Decadal Strategy for Solar and Space Physics report, Solar and Space Physics: A Science for a Technological Society (www.nap.edu/catalog.php?record_id=13060) and its purpose is to enable achieving these goals, which are: 1. Determine the origins of the Sun's activity and predict the variations in the space environment; 2. Determine the dynamics and coupling of Earth's magnetosphere, ionosphere, and atmosphere and their response to solar and terrestrial inputs; 3. Determine the interaction of the Sun with the solar system and the interstellar medium; 4. Discover and characterize fundamental processes that occur both within the heliosphere and throughout the universe. The Heliophysics Research Program seeks to understand phenomena, on a broad range of spatial and temporal scales, the fundamental processes that drive them, how these processes combine to create space weather events, and to enable a capability for predicting future space weather events. In concert with the other NASA science divisions (Planetary Science, Astrophysics, and Earth Science), the program shares responsibility for learning about the Earth, our solar system, the universe, and their interrelationships.

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

Proposal Deadline: HTIDS17 Step-1 Proposals Due May 17, 2017

Contact: Dr. Max Bernstein sara@nasa.gov

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.

Proposal Deadline: June 8, 2017

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