NJIT Research Newsletter

Issue: ORN-2017-16
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NJIT Research Newsletter includes recent awards, and announcements of research related seminars, webinars, national and federal research news related to research funding, and *Grant Opportunity Alerts*. The Newsletter is posted on the NJIT Research Website http://www.njit.edu/research/ .

14th Annual Conference on Frontiers in Applied and Computational Mathematics (FACM '17) at NJIT

The 14th Annual Conference on Frontiers in Applied and Computational Mathematics (FACM '17) will be held at the New Jersey Institute of Technology (NJIT) in Newark, New Jersey on June 24 - 25, 2017. This year's conference will be broadly focused on mathematics in industry, and is scheduled to follow the 33rd Mathematical Problems in Industry Workshop (MPI) which will be held at NJIT immediately prior to the FACM conference. The minisymposia will focus on a variety of topics involving physical and biological modeling, as well as data science, with applications in a number of different fields.

The conference will consist of plenary presentations, minisymposia, and contributed oral presentations and posters. The plenary talks will be given by
- Jon Chapman, Oxford University
- Jianying Hu, IBM T. J. Watson Research Center
- Greg Luther, Adaptive Optics Associates and Northrop Grumman
- Cleve Moler, MathWorks

Applications for contributed presentations by postdoctoral fellows and students are due by May 15, 2017. Applications by members of underrepresented groups, minorities and women are particularly encouraged. Limited travel support, typically on the level of covering the cost of registration and local accommodation is available. For more information, please see the conference web page (https://m.njit.edu/Events/FACM17/).

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QED Proof-of-Concept Program

The University City Science Center is announcing its tenth application cycle of the QED Proof-of-Concept Program. The QED Program is open to academic investigators developing **medical technologies with commercial potential**. Funding of up to $200K is available.

This program provides key areas of support, including business guidance, and access to industry and investment communities. Selected investigators receive guidance from members of the region's entrepreneurial community and industry experts, working with them to develop project proposals that answer critical market questions. Feedback is offered by potential investors and industry licensees. Technologies may include but are not limited to therapeutics, medical devices, *in vitro* diagnostics, imaging agents, biomaterials, and research or software-enabled tools such as bioinformatics, mobile applications, electronic records, imaging platforms, educational tools, diagnostic tools and software-embedded devices.

An information session with a representative of the Science Center will be held on THURSDAY MAY 11th 10am - NOON in ballroom B. For additional details on the QED program please see - Additional information can be found on the QED website - https://www.sciencecenter.org/discover/qed

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Streamlyne Update

Research proposals are being successfully submitted through Streamlyne. New "How to Do" videos have been posted on the research website http://www5.njit.edu/research/streamlyne/. These videos show step-by-step process on the following tasks:
♦ How to Begin Proposal Submission in Streamlyne
♦ How to Input Proposal Budget
♦ How to Process Approvals
♦ How to Upload Proposal Attachments

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

Faculty and staff having any questions on proposal submission, may contact their college representatives, and also follow up with **Justin Samolewicz, Associate Director (Pre Award)** 973-596-3145; justin.m.samolewicz@njit.edu; and **Eric Hetherington,** Director, Sponsored Research Programs Administration 973-596-3631; eric.d.hetherington@njit.edu. The college representatives to help PIs on proposal submissions are
John McCarthy, NCE Director of Research
(973) 596-3247; john.p.mccarthy@njit.edu
Cristo Leon, CSLA Director of Research
(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

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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 identity 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/

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Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

NSF: Semiconductor Synthetic Biology for Information Processing and Storage Technologies (SemiSynBio); CyberCorps(R) Scholarship for Service (SFS); Tectonics; Mathematical Sciences Research Institutes; Computer and Information Science and Engineering (CISE) Research Initiation Initiative (CRII)
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)
Department of Defense/US Army/DARPA/ONR: DoD Breast Cancer Innovator Award; Missile Defense Agency STEM Outreach BEST Robotics Grant; Ground Truth (GT); Communications and Networking Discovery and Invention; Biological Technologies; Lifelong Learning Machines (L2M)
Department of Energy: Solar Decathlon 2019 Future Planning - Request for Information
NASA: **ROSES 2017: Computational Modeling Algorithms and Cyberinfrastructure**
National Endowment of Humanities: Research and Development Grants

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Recent Research Grant and Contract Awards

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

PI: Alexei Khalizov (PI)
Department: Chemistry and Environmental Sciences
Grant/Contract Project Title: CAREER: Molecular Mechanism of Atmospheric Mercury through Speciation-Resolved Experiments
Funding Agency: NSF
Duration: 05/01/16-04/30/21

PI: Steven Chien (PI)
Department: Intelligent Transportation Systems Resources Center, Civil Engineering
Grant/Contract Project Title: Project Information Management System (PIMS) Hosting, Support & Enhancements Study
Funding Agency: NYMTC (NYSDOT)
Duration: 05/01/17-04/30/19

PI: Xiaobo Li (PI)
Department: Biomedical Engineering
Grant/Contract Project Title: Brain Injury Pilot Project
Funding Agency: NJDOH (NJCBIR)
Duration: 07/01/17-06/30/18

PI: Songhua Xu (PI)
Department: Information Systems
Grant/Contract Project Title: Cyber-Informatics Approach to Studying Migration and Environmental Cancer Risk
Funding Agency: US DOE
Duration: 05/01/17-07/31/17

PI: Wenda Cao (PI) and Philip Goode (Co-PI)
Department: Center for Solar Terrestrial Research
Grant/Contract Project Title: Collaborative Research in Solar Physics between KASI, SNU, and BBSO
Funding Agency: KASI
Duration: 06/01/17-05/31/18

PI: Abdallah Khreishah (PI)
Department: Electrical and Computer Engineering
Grant/Contract Project Title: REU Supplement: NETS: Small: Collaborative Research: Coexistence of Directional Communications within 5G Networks
Funding Agency: NSF
Duration: 05/01/17-08/31/17

PI: Iulian Neamtiu (PI)
Department: Computer Science
Grant/Contract Project Title: ARL CRA: MACRO: Models for Enabling Continuous Reconfigurability of Secure Missions
Funding Agency: US Army
Duration: 09/20/16-09/19/18

PI: Yixin Fang (PI)
Department: Mathematical Sciences
Grant/Contract Project Title: Testing the Efficacy of a Technology-Assisted Weight Management Intervention within Patient-Centered Medical Homes
Funding Agency: NIH
Duration: 09/20/16-08/31/17

PI: Yixin Fang (PI)
Department: Mathematical Sciences
Grant/Contract Project Title: Integrating Community Health Workers into Primary Care Teams to improve Diabetes Prevention in Underserved Communities
Funding Agency: NIH-NIDDK
Duration: 07/01/16-06/30/17

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

Federal Budget and Research: Rejecting cuts proposed late in the game by the Trump administration, Congress averted a shutdown by approving a bipartisan bill that funds the federal government through Sept. 30. President Trump signed it today. Overall, R&D did well - five percent above fiscal 2016 levels, according to **calculations by the American Association for the Advancement of Science**. The process kept appropriators, led by (from right) Sen. Thad Cochran (R-Miss.), Reps. Rodney Frelinghuysen (R-N.J.) and Nita Lowey (D-N.Y.), and Sen. Patrick Leahy (D-Vt.), firmly in the driver's seat. But the White House, stung by Democrats' boasts of success in the negotiations, will have more time to influence FY 2018 spending.

   Pentagon research claimed a slice of the $21 billion more Congress voted for defense. The research, development, test, and evaluation account got nearly a billion more. Basic research gained increases in all three services and defense-wide. Favored programs included **Basic Research Initiatives**, **University Research Initiatives**, the Army's **University and Industry Research Centers**, **Historically Black Colleges and Universities**, the **National Defense Education Program**, and the **Manufacturing Technology Program**. The Department of Energy's **Office of Science** got nearly $5.4 billion, including $24 million for the Batteries and Storage Hub and $15 million for the Fuels from Sunlight Hub. The **Advanced Research Projects Agency-Energy** survived with a $15 million increase, despite the administration's wish to eliminate it. The bill also sustained **Energy Efficiency and Renewable Energy.** See the **appropriations report** and a committee **summary** on https://appropriations.house.gov/uploadedfiles/05.01.17_fy_2017_omnibus_-_energy_and_water_-_summary.pdf

The **National Institutes of Health** was funded at $2 billion more than in FY 2016, with "specific increases for research related to Alzheimer's disease, the brain, antibiotic resistance, and the Precision Medicine Initiative," House appropriators said. The National Institute of Biomedical Imaging and Bioengineering received a $10 million bump. See the **summary** and **appropriations report**.

NASA received $368 million more than in 2016, including $175 million more for science, $25 million more for aeronautics, and $294 million more for exploration.

The **National Science Foundation** received a mere $8.7 million more than in FY 2016. with almost that whole amount going to research equipment and facilities constrution. Education and Human Resources and operations and management each got substantially less than they had sought. See the **summary** and **appropriations report.** More information on http://www.sciencemag.org/news/2017/05/how-science-fares-us-budget-deal

Doe Lifts Freeze - With a Warning: The Department of Energy, which had reportedly stopped paying out grants in Advanced Research Projects Agency - Energy and Energy Efficiency and Renewable Energy programs, has now issued "clear guidance that it will honor all commitments for funds previously obligated for grants and cooperative agreements," according to a statement quoted by E&E News. The statement went on: "Moving forward, the Department will review all DOE financial assistance programs to ensure that taxpayer dollars are spent in the most efficient and effective way possible in alignment with the administration's priorities," and begin "a new era of careful oversight over how and where it spends taxpayer money appropriated to the agency by Congress." E&E News also reported: "A memo obtained earlier this week stated that awards for small businesses were being delayed until Energy Secretary Rick Perry (at right) completed a review." More information is posted on https://www.eenews.net/climatewire/2017/04/12/stories/1060052971

New Vision For ERCs: A National Academies committee "proposes a strategic new direction" for the National Science Foundation's Engineering Research Centers program "focused on tackling larger, grand-challenge-like problems" and "addressing a high-impact societal or technological need." How? By "adhering to the use of team-research and value-creation best practices, fewer administrative burdens, and greater investment and prestige to attract the superb, diverse talent required." Bold bets "on a small number of well-funded, prestigious centers focused on engineering solutions to society's greatest challenges . . . will create excitement in the engineering community that will attract the best students, faculty, and industry partners." More information on https://www.nap.edu/catalog/24767/a-new-vision-for-center-based-engineering-research

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

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Webinar and Events

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 Webinar: Understanding SBIR & STTR Phase I Application Process
When: May 19, 2017; 2.00 PM – 4.00 PM
Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=191448&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: Rajesh Mehta, rmehta@nsf.gov

Event: NSF CAREER Program Webinar
When: May 22, 2017; 1.00 PM – 3.00 PM
Website:
https://www.nsf.gov/events/event_summ.jsp?cntn_id=191332&WT.mc_id=USNSF_13&WT.mc_ev=click
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

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Grant Opportunities

National Science Foundation

Grant Program: Semiconductor Synthetic Biology for Information Processing and Storage Technologies (SemiSynBio)

Agency: National Science Foundation NSF 17-557

RFP Website: https://www.nsf.gov/pubs/2017/nsf17557/nsf17557.htm

Brief Description: The National Science Foundation (NSF), through its Division of Electrical, Communications and Cyber Systems (ECCS) in the Directorate for Engineering (ENG), Division of Computing and Communication Foundations (CCF) in the Directorate for Computer and Information Science and Engineering (CISE), and Division of Molecular and Cellular Biosciences (MCB) in the Directorate for Biological Sciences (BIO), has established a partnership with the Semiconductor Research Corporation (SRC), through its Global Research Collaboration (GRC) program, and the Intelligence Advanced Research Projects Activity (IARPA) to announce a

solicitation on the "Semiconductor Synthetic Biology for Information Processing and Storage Technologies (SemiSynBio)". Future ultra-low-energy computing, storage and signal-processing systems can be built on principles derived from organic systems that are at the intersection of chemistry, biology, and engineering. New information technologies can be envisioned that are based on biological principles and that use biomaterials in the fabrication of devices and components; it is anticipated that these information technologies could enable stored data to be retained for more than 100 years and storage capacity to be 1,000 times greater than current capabilities. These could also facilitate compact computers that will operate with substantially lower power than today's computers. Research in support of these goals can have a significant impact on advanced information processing and storage technologies. This focused solicitation seeks high-risk/high-return interdisciplinary research on novel concepts and enabling technologies that will address the scientific issues and technological challenges associated with the underpinnings of synthetic biology integrated with semiconductor technology. This research will foster interactions among various disciplines including biology, engineering, physics, chemistry, materials science, computer science, and information science that will enable heretofore-unanticipated breakthroughs as well as meet educational goals.

Awards: Continuing Grants. Approximately, 8 to 10 multidisciplinary awards will be made in FY 2018, subject to the availability of funds and quality of proposals. Individual projects will be funded at up to $500,000 per year for three years depending on the availability of funds.

Letter of Intent: Not Required

Full Proposal Submission Due Date: October 02, 2017 - October 30, 2017

- **Contacts:** Usha Varshney, Program Director, ENG/ECCS, telephone: (703) 292-8339, email: uvarshne@nsf.gov
- Mitra Basu, Program Director, CISE/CCF, telephone: (703) 292-8910, email: mbasu@nsf.gov
- Arcady Mushegian, Program Director, BIO/MCB, telephone: (703) 292-8528, email: amushegi@nsf.gov

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Grant Program: CyberCorps(R) Scholarship for Service (SFS)
Agency: National Science Foundation NSF 17-556
RFP Website: https://www.nsf.gov/pubs/2017/nsf17556/nsf17556.htm
Brief Description: The CyberCorps(R): Scholarship for Service (SFS) program seeks proposals that address cybersecurity education and workforce development. The *Scholarship Track* provides funding to award scholarships to students in cybersecurity. All scholarship recipients must work after graduation for a Federal, State, Local, or Tribal Government organization in a position related to cybersecurity for a period equal to the length of the scholarship. A proposing institution must provide clearly documented evidence of a strong existing academic program in cybersecurity. Such evidence can include: designation by the National Security Agency and the Department of Homeland Security as a Center of Academic Excellence in Information Assurance Education/Cyber Defense (CAE IA/CD), in Cyber Operations or in Research (CAE-R); a specialized designation by a nationally recognized organization (for example, in forensics); or equivalent evidence documenting a strong program in cybersecurity.

The *Capacity Track* seeks innovative proposals leading to an increase in the ability of the United States higher education enterprise to produce cybersecurity professionals. Proposals are encouraged that contribute to the expansion of existing educational opportunities and resources in cybersecurity and focus on efforts such as research on the teaching and learning of cybersecurity, including research on materials, methods and interventions; curricula

recommendations for new courses, degree programs, and educational pathways with plans for wide adoption nationally; teaching and learning effectiveness of cybersecurity curricular programs and courses; integration of cybersecurity topics into computer science, data science, information technology, engineering and other existing degree programs with plans for pervasive adoption; and partnerships between institutions of higher education, government, and relevant employment sectors leading to improved models for the integration of applied research experiences into cybersecurity degree programs.

Awards: Standard Grants. **Anticipated Funding Amount:** $25,000,000

Letter of Intent: Not Required

Full Proposal Submission Due Date:

July 10, 2017 - July 31, 2017; Scholarship Track

November 17, 2017 - December 05, 2017; Capacity Track

Contacts: Victor P. Piotrowski, Lead Program Director, telephone: (703) 292-5141, email: vpiotrow@nsf.gov

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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

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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.gov
Christopher W. Stark, telephone: (703) 292-4869, email: cstark@nsf.gov
Mary Ann Horn, telephone: (703) 292-4879, email: mhorn@nsf.gov

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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

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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 stems 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.

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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.

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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.

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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.

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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.

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Department of Defense/US Army/DARPA/ONR

Grant Program: DoD Breast Cancer Innovator Award
Agency: Department of Defense USAMRAA W81XWH-17-BCRP-INNOV
Website: https://www.scholarshipandgrants.com/scholarships/dod-breast-cancer-innovator-award/

Brief Description: The Innovator Award supports visionary individuals who have demonstrated exceptional creativity, innovative work, and paradigm-shifting leadership in any field including, but not limited to, breast cancer. The Innovator Award will provide these individuals with the funding and freedom to pursue their most novel, visionary, high-risk ideas that could accelerate progress to ending breast cancer. Because the intent of the Innovator Award mechanism is to recognize these remarkably creative and innovative visionary individuals, rather than projects, the central feature of the award is the innovative contribution that the Principal Investigator (PI) can make toward ending breast cancer. The PI should have a record of challenging the status quo, shifting paradigms by changing a field of research or approach to patient care, exhibiting high levels of creativity, and demonstrating promise for continued innovation in future work. These rare individuals will be able to articulate a vision for ending breast cancer that challenges current dogma and demonstrates an ability to look beyond tradition and convention. The PI is also expected to be established in his/her field and have demonstrated success at forming and leading effective partnerships and collaborations. To further the development of innovative individuals and spark the generation of novel ideas, applications are required to incorporate the mentoring of promising junior investigators. Experience in breast cancer research is not required; however, the application must focus on breast cancer, and the PI must maintain a 50% dedication of his/her full-time professional effort during the award period to breast cancer research. This professional effort in breast cancer research can be through a combination of this award and other current support. Individuals from other disciplines who will apply novel concepts to breast cancer are encouraged to submit. The PI is expected to assemble a research team that will provide the necessary expertise and collaborative efforts toward accomplishing the research goals. The PI's

research team must include two or more breast cancer consumer advocates. As lay representatives, the consumer advocates must be individuals who have been diagnosed with breast cancer and are actively involved in a breast cancer advocacy organization. Their role should be independent of their employment, and they cannot be employees of any of the organizations participating in the application. The consumer advocates should have a high level of knowledge of current breast cancer issues and the necessary background or training in breast cancer research to contribute to the project. Their role should be focused on providing objective input on the research and its potential impact for individuals with, or at risk for, breast cancer.
Awards: Anticipated Available Funds: $8,000,000
Proposal Deadline: August 31, 2017
Contact Information: CDMRP Help Desk Phone: 301-682-5507 Email: help@eBRAP.org

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Grant Program: Missile Defense Agency STEM Outreach BEST Robotics Grant
Agency: Department of Defense DARPA MDA-2017-DACV-STEM-0001
Website: http://www.federalgrants.com/Missile-Defense-Agency-STEM-Outreach-BEST-Robotics-Grant-50682.html
Brief Description: Missile Defense Agency (MDA) Science, Technology, Engineering, and Mathematics (STEM) Outreach's goal is to increase the awareness of K-12 and college students to Science, Technology, Engineering, and Mathematics (STEM), in order to enhance the number of U.S. scientists and engineers capable of solving future Missile Defense challenges in the Government, industry, and academia.
Awards: Award Ceiling: $50,000
Proposal Deadline: June 09, 2017
Contact Information: Michelle Dunn Contract and Grant Specialist Phone 256-450-0810 michelle.dunn@mda.mil

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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&_cview=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

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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, atmospherics, 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

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Grant Program: Biological Technologies
Agency: Department of Defense DARPA HR001117S0030
Website:
https://www.fbo.gov/index?s=opportunity&mode=form&id=91b94156bbad11c1cb1b8a8873510ed3&tab=core&_cview=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

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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/atamdhawan/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

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Department of Energy

Grant Program: Solar Decathlon 2019 Future Planning - Request for Information
Agency: Department of Energy   DE-FOA-0001753
Website: https://eere-exchange.energy.gov/#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: Computational Modeling Algorithms and Cyberinfrastructure
Agency: NASA NNH17ZDA001N-CMAC
 Website:
https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={344D6EF1-D56F-60FD-505E-A31035E2B19C}&path=open

Brief Description: The Earth Science Division (ESD) within NASA's Science Mission Directorate (SMD) pioneers the scientific use of remotely sensed measurements to advance understanding of the Earth as an integrated system and to provide direct societal benefits. Numerical models represent key achievements in NASA's Earth science endeavors, as the models codify consistently our quantitative knowledge about selected portions of the Earth system. Coupled with data assimilation systems, models are used to synthesize diverse arrays of information from satellite and in situ measurements; high-fidelity models driven and constrained by sufficient data can yield accurate predictions and essential insights into a wide range of complex Earth system processes and interactions, spanning many space and time scales and involving many aspects of our environment. NASA considers the use of data-driven models to be central to our approach to Earth system science. Because the most advanced models are run on supercomputers available only at computing centers, the Computational Modeling Algorithms and Cyberinfrastructure (CMAC) program funds research and development activities to optimize the products and services at high-end computing (HEC) centers to increase the productivity of the users who use HEC to produce modeling products and the users who need to analyze the modeling results using the HEC resources. CMAC builds advanced modeling infrastructure used at NASA computing centers to support Earth system science investigations while fundamentally utilizing both models and data.

Awards: Expected Budget: $1,500,000 for the first year

Proposal Deadline: CMAC17 NOIs Due: May 25, 2017

CMAC17 Proposals Due: Jul 27, 2017

Contact: Tsengdar Lee Earth Science Division Science Mission Directorate National Aeronautics and Space Administration Washington, DC 20546-0001 Telephone: (202) 358-0860 E-mail: tsengdar.j.lee@nasa.gov

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National Endowment of Humanities

Grant Program: Research and Development Grants
Agency: National Endowment of Humanities
 Website: https://www.neh.gov/grants/preservation/research-and-development

Brief Description: The Research and Development program supports projects that address major challenges in preserving or providing access to humanities collections and resources. These challenges include the need to find better ways to preserve materials of critical importance to the nation's cultural heritage—from fragile artifacts and manuscripts to analog recordings and digital assets subject to technological obsolescence—and to develop advanced modes of organizing, searching, discovering, and using such materials. This program recognizes that finding solutions to complex problems often requires forming interdisciplinary project teams, bringing together participants with expertise in the humanities; in preservation; and in information, computer, and natural science.

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

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

Tier I: Planning and Basic Research

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

Tier II: Advanced Implementation

Tier II grants support projects at a more advanced stage of implementation for the following activities:
- the development of standards, practices, methodologies, or workflows for preserving and creating access to humanities collections; and
- applied research addressing preservation and access issues concerning humanities collections.

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

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.

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