

NJIT Research Newsletter

Issue: ORN-2016-033

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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(Related to research funding)

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Grant Opportunity Alerts

Keywords and Areas Included in Grant Opportunity Alerts

NJIT: Undergraduate Research and Innovation (URI) Student Seed Grants

NSF: Smart and Connected Health; NSF Research Traineeship (NRT) Program; NRT Internal Competition; Condensed Matter and Materials Theory (CMMT); ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers

NIH: Antimicrobial Resistance Rapid, Point-of-Care Diagnostic Test Challenge Competition; Innovation Corps (I-Corps™) at NIH Program for NIH and CDC; Centers of Biomedical Research Excellence (COBRE) (P20)

Department of Defense/US Army/DARPA/ONR: Young Investigator Program (YIP)

Department of Energy: Request For Information On Potential Technical Focus Areas For Advanced Manufacturing - Related Traineeships

GE Healthcare Challenge: Sensors

NJ Health Foundation: Research and Innovation Grants

Simons Foundation: Simons Investigators Award in Math, Applied and Life Sciences

Recent Research Grant and Contract Awards

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

PI: Bharat Biswal (PI)

Department: Biomedical Engineering

Grant/Contract Project Title: CRCNS: Neurophysiological Basis of Brain Connectivity

Funding Agency: Lavipharm Laboratories

Duration: 09/01/14-08/31/17

PI: Yuan-Nan Young (PI)

Department: Mathematical Sciences

Grant/Contract Project Title: Collaborative Proposal: Theoretical, computational, and experimental investigations on the interaction between a lipid bilayer membrane and a solid substrate or particle

Funding Agency: NSF

Duration: 09/01/16-08/31/19

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

Department: Center for Solar Terrestrial Research

Grant/Contract Project Title: Observations with the 1.6 Meter New Telescope in Big Bear: Origins of Space Weather

Funding Agency: AFOSR

Duration: 09/15/15-09/14/18

PI: Richard Foulds (PI)

Department: Biomedical Engineering

Grant/Contract Project Title: Rehabilitation Engineering Research Center on Wearable Robots for Independent Living

Funding Agency: DHHS

Duration: 09/30/15-09/29/20

PI: Veronica Guzman (PI)

Department: CPCP

Grant/Contract Project Title: Upward Bound English Language Learners (ELLs)

Funding Agency: US DOE

Duration: 09/01/12-08/31/17

PI: Abdallah Khreishah (PI), Nirwan Ansari (Co-PI), Joyoung Li (Co-PI), and Chengjun Liu (Co-PI)

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

Grant/Contract Project Title: US Ignite: Focus Area 1: Fast Autonomic Traffic Congestion Monitoring and Incident Detection through Advanced Networking, Edge Computing, and Video Analytics

Funding Agency: NSF

Duration: 01/01/17-12/31/19

PI: Wooyoung Choi (PI)

Department: Mathematical Sciences

Grant/Contract Project Title: Collaborative Research: Nonlinear Interactions between Surface and Internal Gravity Waves in the Ocean

Funding Agency: NSF

Duration: 09/15/16-08/31/19

PI: Michael Ehrlich (PI) and Judith Sheft (Co-PI)

Department: School of Management

Grant/Contract Project Title: I-Corps Site: New Jersey Institute of Technology

Funding Agency: NSF

Duration: 03/15/15-02/28/18

PI: Zafar Iqbal (PI)
Department: Chemistry and Environmental Sciences
Grant/Contract Project Title: Electrical Properties of Novel Nanomaterials
Funding Agency: US Army
Duration: 09/15/16-08/31/19

PI: Horacio Rotstein (PI)
Department: Mathematical Sciences
Grant/Contract Project Title: US-Israel Research Proposal: Network resonance: revealing the neuronal mechanisms
Funding Agency: NSF
Duration: 09/15/16-08/31/20

PI: Lou Kondic (PI)
Department: Mathematical Sciences
Grant/Contract Project Title: Quantifying Complex Spatiotemporal Systems
Funding Agency: DARPA
Duration: 09/01/16-07/31/18

PI: Andrei Sirenko (PI)
Department: Mathematical Sciences
Grant/Contract Project Title: Material Synthesis and Spectroscopy diffraction studies of multiferroics
Funding Agency: USDOE
Duration: 06/01/16-05/31/17

In the News...

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

Safe Genes: The emergence of CRISPER-Cas9 gene editing technology, and potential applications such as producing gene drives, has highlighted the need for new protocols and tools to address the potential security aspects of gene-editing. The Defense Advanced Research Projects Agency (DARPA) has announced the establishment of a [Safe Genes](http://www.darpa.mil/news-events/2016-09-07) <http://www.darpa.mil/news-events/2016-09-07> program. The objectives of the program are to: to develop reversible control of genome editors; develop effective countermeasures for unwanted effects of gene editing in populations; and eliminate unwanted engineered genes from environments. A [proposer's day](https://www.fbo.gov/index?s=opportunity&mode=form&id=9eeb8015fe08ce14143d5fd77f21f38c&tab=core&cvview=0) has been announced for September 30 at the United States Institute of Peace in Washington. More information on <https://www.fbo.gov/index?s=opportunity&mode=form&id=9eeb8015fe08ce14143d5fd77f21f38c&tab=core&cvview=0>.

Department of Energy: The U.S. Department of Energy (DOE) announced a total of \$13 million to be awarded to twelve multi-year research projects intended to develop cost efficient and effective ways to mitigate methane emissions from natural gas pipeline and storage

infrastructure. The research will also look to better quantify the sources, volumes and rates of methane emissions. This new initiative by the Office of Fossil Energy builds upon the President's Climate Action Plan Strategy to Reduce Methane Emissions.

Natural gas currently provides heat to millions of American homes and is expected to provide a third of the nation's total electric power generation this year. While natural gas has lower carbon emissions than some other energy resources, the associated methane emissions – if not addressed – could undermine the environmental benefits of expanded use of this abundant domestic resource. As a result, the Administration has announced a number of steps to address concerns about methane emissions in recent years.

Seven of these newly selected projects will be mitigation-focused research efforts that will work on developing a suite of natural gas leak reduction technologies. These research initiatives will help to develop, modify, and evaluate tools and technologies for methane mitigation beyond a proof of concept and eventually have the potential to be commercialized in the near future. The remaining five projects will advance methane emission quantification research that is intended to better measure and understand methane emissions derived from the natural gas supply chain. More information on <http://energy.gov/under-secretary-science-and-energy/articles/doe-announces-13-million-quantify-and-mitigate-methane>.

Equity PARTNERS: The National Science Foundation's Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers (ADVANCE) program "will support partnerships of two or more non-profit academic institutions and/or STEM organizations to increase gender equity in STEM academics. . . . Partnering STEM organizations can include any entity eligible for NSF support. Partners may include professional societies, industry, non-profit organizations, publishers, policy and research entities, state systems of higher education, higher education organizations, as well as institutions of higher education." Join a [pre-proposal webinar Sept. 21](#). Please see information about the seminar in the next section.

NIH: This National Institutes of Health competition "calls for new, innovative, and novel laboratory diagnostic tests that identify and characterize antibiotic resistant bacteria and/or distinguish between viral and bacterial infections to reduce unnecessary uses of antibiotics, a major cause of antibiotic resistance. With real-time detection, healthcare providers would be able to identify infecting pathogens and resistance factors within hours, rather than days, and use the knowledge to tailor treatment to each individual. More on <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-16-137.html> Also, in Grant Opportunities section below.

Events and Announcements

Please Mark Your Calendar: NJIT Events

Institutional Review Board (IRB) Meetings For Approval on Use of Human Subjects in Research

For information about IRB and application forms, please see research website <http://www.njit.edu/research/researchers/irb/index.php>

2016/2017 IRB Meeting Schedule

Note: The forms must be received by the IRB at least one week before the meeting to ensure enough time for accurate review.

- Tuesday, September 13, 2016
 - Tuesday, October 11, 2016
 - Tuesday, November 8, 2016
 - Tuesday, December 6, 2016
 - Tuesday, February 7, 2017
 - Tuesday, March 7, 2017
 - Tuesday, April 11, 2017
 - Tuesday, May 9, 2017
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Institutional Biosafety Committee (IBC) Meetings For Approval on Biosafety Related Protocols in Research

For information about IBC and application forms, please see research website <http://www.njit.edu/research/researchers/biosafety-committee.php>

2016 - 2017 IBC Meeting Schedule

Your application forms must be submitted at least 10 days before the meeting date. Submit your forms to IBC@njit.edu.

- Thursday, September 22, 2016
 - Thursday, October 20, 2016
 - Wednesday, November 16, 2016
 - Thursday, December 15, 2016
 - Thursday, February 16, 2017
 - Thursday, March 16, 2017
 - Thursday, April 20, 2017
 - Thursday, May 18, 2017
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NJIT Research Related Events hosted by Office of Research

The following research related events are organized for faculty and staff to provide information and promote collaborative research. All research faculty and staff members are invited. More details and information will be published in the future newsletters and also posted on the research website.

Fall 2016 Event Schedule:

Office of Research Open House: September 26, 2016, 12:00 PM - 4:00 PM (Light Lunch), Ballroom A

Faculty Research Advisory Board Meeting: November 14, 2016, 12.00 PM-2:00 PM, Ballroom B

2016 NJIT Research Center Showcase: November 17, 2015, 11:00 AM–4:00 PM (Light Lunch and networking), Ballroom A & B

Undergraduate Research and Innovation Workshop (Students Seed Grants): October 20, 2016, 2:00 PM-5:30 PM, Ballroom A

Undergraduate Research and Innovation Workshop (Students Seed Grants): December 8, 2016, 2:00 PM-5:30 PM, Ballroom A

Event: ADVANCE Partnerships pre-proposal Technical Assistance Webinars

When: September 21, 2016 2.00 PM – 3.00 PM

Website:

http://www.nsf.gov/events/event_summ.jsp?cntn_id=135008&WT.mc_id=USNSF_13&WT.mc_e v=click

Brief Description: The ADVANCE program office will hold a pre-proposal technical assistance webinar on the ADVANCE *Partnership* track described in the ADVANCE solicitation 16-594. The *Partnership* track will support partnerships of two or more non-profit academic institutions and/or STEM organizations to increase gender equity in STEM academics. Projects should have national or regional impact and result in systemic change within one STEM discipline, several STEM disciplines, or all STEM disciplines. Partners may include professional societies, industry, non-profit organizations, publishers, policy and research entities, state systems of higher education, higher education organizations, as well as institutions of higher education. *Partnership* proposals must include a final year focused on sustainability and/or scale-up, communication, and evaluation. The other ADVANCE tracks will be outlined briefly during this webinar so you are aware of the different program tracks but the focus will be on the *Partnership* track.

Please be sure to review the solicitation for the official guidelines and information on preparing and submitting proposals before the webinar so you can ask questions during the Q and A. Note that for *Partnership* proposals non-binding letters of intent are required by December 14, 2016 and full proposals are due January 11, 2017.

Registration Website:

https://nsf.webex.com/mw3100/mywebex/default.do?service=1&siteurl=nsf&nomenu=true&main_url=%2Fmc3100%2Fe.do%3Fsiteurl%3Dnsf%26AT%3DMI%26EventID%3D494004607%26UID%3D0%26Host%3DQUhTSwAAAAKfbUDT18065GRZpculB3BklT2eI88YekMxK6lUJdkgZa6P0rO5UEG2YfORBbOGfeMgSjtqnkKNBELDtsCdk9nG0%26RG%3D1%26FrameSet%3D2%26RGID%3Drbc44b12e8a6cd6a731f5f6d91be983cd

Event: Safe Genes Proposer Day; Solicitation Number: DARPA-SN-16-67

When: Friday, September 30, 2016 from 8:30 AM to 5:00 PM ET at the United States Institute of Peace (2301 Constitution Ave NW, Washington, DC 20037). Advance registration is required.

Website:

<https://www.fbo.gov/index?s=opportunity&mode=form&id=9eeb8015fe08ce14143d5fd77f21f38c&tab=core&cvview=0>

Brief Description: The Biological Technologies Office (BTO) of the Defense Advanced Research Projects Agency (DARPA) is hosting a Proposers Day for the potential proposer community in support of a planned Broad Agency Announcement (BAA) for the Safe Genes Program.

The goals of the Proposers Day include:

1. Introducing the Safe Genes program vision and goals;
2. Explaining the mechanics of a DARPA program in general and the objectives and milestones of this program in particular; and
3. Encouraging and promoting teaming arrangements among organizations that have the relevant expertise, research facilities, and capabilities for executing research and development responsive to the Safe Genes program goals.

The Proposers Day will include brief overview presentations by government personnel, an information session to respond to questions from participants, "lightning" talks (three minutes, one PowerPoint slide) and posters for potential proposers to highlight technical capability or interest to promote teaming, and private sidebar meetings with the DARPA government team and potential proposer teams that can be scheduled beforehand on the registration website.

Attendance at this event is not a requirement for submission of a proposal or selection for funding. Information relayed during the Proposers Day will be made available on the BTO section of the DARPA Opportunities page: <http://www.darpa.mil/work-with-us/opportunities>.

Event: 2016 NRT (NSF Research Traineeship) Program Information Webinar

When: November 9, 2015 1:00 AM to December 9, 2016 11:45 PM

Website: http://www.nsf.gov/events/event_summ.jsp?cntn_id=134466&org=NSF

Brief Description: The NSF Research Traineeship program (NRT) prerecorded informational videos to provide an overview of the NRT program and describe the key similarities and differences of the two tracks. The aim of these webinars was to give potential principal investigators information on program announcement [16-503](#) by emphasizing several key features and requirements of each track.

Grant Opportunities

Undergraduate Research

Grant Program: Undergraduate Research and Innovation (URI) Student Seed Grants

Phase-1 URI Student Seed Grants

Phase-2 URI Student Seed Grants

Funding: NJIT Internal and External Grants

Website: <http://centers.njit.edu/uri/programs/index.php>

Description: NJIT 2020 Vision strategic plan emphasizes providing undergraduate students an outstanding education with opportunities to have research and innovation experience as part of their NJIT learning enabling them to succeed and assume leadership roles in our society.

The Undergraduate Research and Innovation (URI) program has evolved as a significant part of the education and research experience at NJIT. The URI website <http://centers.njit.edu/uri/> summarizes undergraduate research and innovation opportunities

and provides information about resources and competitions. The proposal can be submitted for Track-1 Technology/Product Development and Innovation, or Track-2 Application based Research.

We are pleased to announce the Undergraduate Research and Innovation Student Grant (URISG) program to provide students Phase-1 Student Seed Grants of \$500 per project to pursue preliminary research or demonstrate an initial proof-of-concept/prototypes. URI Phase-2 Student Seed Grants provides up to \$3,000 per project to pursue research further or develop a complete prototype. Funds can only be used to order project supplies and prototyping through the Office of Undergraduate Research and Innovation. Phase-2 proposals may be submitted by former Phase-1 Student Seed Grant winners who have completed Phase-1 work, as well as new students who have a research or product idea that has shown the preliminary proof of concept, market assessment or application-based research to establish the need, significance and basic approach. The student may prepare URI Student Phase-1 or Phase-2 Seed Grant proposals following the template with format and guidelines on the URI website <http://centers.njit.edu/uri/programs/index.php>

Information Session: Information session on the proposal format and guidelines on how to prepare the URI Student Seed Grant proposals will be held on September 27, 2016 from 12.00 PM to 2.00 PM in Room 240, Campus Center. A pizza lunch will be served. URI External Advisory Board members will be available to discuss format requirements and review process for student seed grant proposals.

Awards: Expected number of awards: 15-20

Up to \$500 for Phse-1 Student Seed Grants

Up to \$3,000 for Phase-2 Student Seed Grants

Deadline: All proposals should be submitted by **October 14, 2016** following the URI Phase-1 or Phase-2 Student Project Grant Proposal Format Guidelines posted on the URI website <http://centers.njit.edu/uri/programs/index.php>. Students working with a faculty member may submit URI Student Seed Grant proposals in the required format to Ms. Angela Retino at aretino@njit.edu. All proposals will be reviewed to select up to 15 finalist proposals for presentation to the External Advisory Board in the URI Workshop to be held on October 20, 2016 at the Campus Center Ballroom A from 2.00 PM to 5.00 PM.

Contact Information: Any questions about the program or Information Session should be directed to Ms. Angela Retino, URI Program Administrator, at aretino@njit.edu.

Internal Competition: National Science Foundation

Grant Program: National Science Foundation Research Traineeship (NRT) Program

Agency: National Science Foundation NSF 16-503

RFP Website: <http://www.nsf.gov/pubs/2016/nsf16503/nsf16503.htm>

Brief Description: The NSF Research Traineeship (NRT) program is designed to encourage the development and implementation of bold, new, and potentially transformative models for STEM graduate education training. The NRT program seeks proposals that ensure that graduate students in research-based master's and doctoral degree programs develop the skills, knowledge, and competencies needed to pursue a range of STEM careers. The NRT program includes **two tracks:** the **Traineeship Track** and the **Innovations in Graduate Education (IGE) Track**.

The **Traineeship Track** is dedicated to effective training of STEM graduate students in high priority interdisciplinary research areas, through the use of a comprehensive traineeship model that is innovative, evidence-based, and aligned with changing workforce and research needs. For FY2016, there are four priority areas: (1) Data-Enabled Science and Engineering

(DESE), (2) Understanding the Brain (UtB), (3) Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS), and (4) any other interdisciplinary research theme of national priority. The priority research areas for the FY2017 competition will be (1) UtB, (2) INFEWS, and (3) any other interdisciplinary research theme of national priority.

The **IGE Track** focuses on test-bed projects aimed at piloting, testing, and validating innovative and potentially transformative approaches to graduate education. IGE projects are intended to generate the knowledge required for their customization, implementation, and broader adoption. While the Traineeship Track promotes building on the current knowledge base to develop comprehensive programs to effectively train STEM graduate students, the IGE Track supports testing of novel models or activities with high potential to enrich and extend the knowledge base on effective graduate education approaches.

The NRT program addresses both workforce development, emphasizing broad participation, and institutional capacity building needs in graduate education. For both tracks, strategic collaborations with the private sector, non-governmental organizations (NGOs), government agencies, national laboratories, field stations, teaching and learning centers, informal science centers, and academic partners are encouraged.

Awards: Standard Grants; **Anticipated Funding Amount:** \$51,680,000.

Letter of Intent: December 09, 2016

Full Proposal Submission Due Date: February 7, 2017

Limit on Number of Proposals per Organization: 4

Limit on Number of Proposals per Organization: 2 for the Traineeship Track, 2 for the Innovations in Graduate Education Track

An eligible organization may participate in two Traineeship Track proposals and two Innovations in Graduate Education Track proposals per competition. **Participation includes serving as a lead organization on a non-collaborative proposal or as a lead organization, non-lead organization, or subawardee on a collaborative proposal.** Organizations participating solely as evaluators on projects are excluded from this limitation.

Limit on Number of Proposals per PI or Co-PI: 1

An individual may serve as Lead Principal Investigator (PI) or Co-PI on only one proposal submitted to the NRT program per annual competition

Contacts:

- Claire Hemingway, telephone: (703) 292-7135, email: nrt@nsf.gov
- Richard Tankersley, telephone: (703) 292-5199, email: nrt@nsf.gov

NJIT Internal Competition for Selection of Proposals

Internal Competition Deadline: Submit an internal Letter of Intent following the NSF LOI instructions (copied below) to your college/school dean by October 7, 2016.

Dean's recommendations with the internal Letter of Intent (not more than 2 for the Traineeship Track and 2 for the Innovation in Graduation Track) should be submitted to the Office of Research for Institutional Reviews and selection by October 17, 2016. PIs and deans will be notified for selected LOIs by October 24.

Instruction of Preparation of Letters of Intent (required):

A Letter of Intent (LOI) submitted by the lead institution only is required for proposal submissions planned for either NRT track. Limits on the number of proposals submitted per institution and per PI/coPI also apply to the Letters of Intent. Letters of Intent are not reviewed

but are used to gauge review requirements. They are not used as pre-approval mechanisms for the submission of proposals, and no feedback is provided to the submitters.

Submit a one-page LOI through FastLane with the following information:

- The name and departmental affiliation of the Principal Investigator (PI);
- The name(s) and departmental affiliation(s) of the Co-PI(s) and others composing the 10 Core Participants;
- The names(s) of any other participating institutions or organizations;
- Project Title: For Traineeship Track proposals, the title must begin with “NRT-DESE:”, “NRT-UtB:”, “NRT-INFEWS:”, for projects targeting the Data-Enabled Science and Engineering, Understanding the Brain, and Nexus of Food, Energy, and Water Systems research areas, respectively. Titles for projects addressing another interdisciplinary theme must begin with “NRT:”. For Innovations of Graduate Education Track proposals, the title must begin with “NRT-IGE:”.
- Project Synopsis (2500 text-based characters): For Traineeship Track proposals, provide a brief summary of the vision and goals of the proposed training program, including a brief description of the interdisciplinary research theme, the main training elements, the integration of the research and training, and the need for the program; for IGE Track proposals, provide a brief description of the graduate education model(s), approach(es), or activities to be piloted and tested, including a brief description of the disciplinary or interdisciplinary needs and/or challenges addressed.

Keywords: For Traineeship Track proposals, include 4-5 keywords that specify the disciplines and/or themes targeted; for IGE Track proposals, include 4-5 keywords that describe the model, approach, and/or activities to be piloted and tested.

National Science Foundation

Grant Program: Smart and Connected Health (SCH)

Agency: National Science Foundation NSF 16-601

RFP Website: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf16601

Brief Description: The goal of the Smart and Connected Health (SCH) Program is to accelerate the development and use of innovative approaches that would support the much needed transformation of healthcare from reactive and hospital-centered to preventive, proactive, evidence-based, person-centered and focused on well-being rather than disease. Approaches that partner technology-based solutions with biobehavioral health research are supported by multiple agencies of the federal government including the National Science Foundation (NSF) and the National Institutes of Health (NIH).

The purpose of this program is to develop next generation health care solutions and encourage existing and new research communities to focus on breakthrough ideas in a variety of areas of value to health, such as sensor technology, networking, information and machine learning technology, decision support systems, modeling of behavioral and cognitive processes, as well as system and process modeling. Effective solutions must satisfy a multitude of constraints arising from clinical/medical needs, social interactions, cognitive limitations, barriers to behavioral change, heterogeneity of data, semantic mismatch and limitations of current cyberphysical systems. Such solutions demand multidisciplinary teams ready to address technical, behavioral and clinical issues ranging from fundamental science to clinical practice. Due in large part to advances in high throughput and connective computing, medicine is at the cusp of a sector-wide transformation that - if nurtured through rigorous scientific innovation - promises to accelerate discovery, improve patient outcomes, decrease costs, and address the

complexity of such challenging health problems as cancer, heart disease, diabetes and neurological degeneration. These transformative changes are possible in areas ranging from the basic science of molecular genomics and proteomics to decision support for physicians, patients and caregivers through data mining to support behavior change through technology-enabled social and motivational support.

In addition to these scientific discoveries, innovative approaches are required to address delivery of high quality, economically-efficient healthcare that is rapidly becoming one of the key economic, societal and scientific challenges in the United States. The need for a significant healthcare transformation has been recognized by numerous organizations including the President's Council of Advisors on Science and Technology (PCAST), National Research Council (NRC), Institute of Medicine (IOM), Computing Community Consortium (CCC), and the National Academy of Engineering. Additionally, a congressionally mandated review of Networking and Information Technology Research and Development (NITRD) emphasized the critical role that networking and information technology will play in spurring innovation to solve the nation's most pressing challenges, beginning with health and healthcare. Several of these agencies explicitly encouraged the Department of Health and Human Services (e.g., NIH, Agency for Healthcare Research and Quality (AHRQ), Office National Coordinator for Health Information Technology (ONCHIT)) to work explicitly with the National Science Foundation to realize the scientific potential of digitally supported health and healthcare. Recommendations also called for joint funding between these agencies to conduct cross-cutting research into the social, cognitive, and behavioral processes underlying efficient use of the new technologies, and the analytic demands implied by the new large scale databases. The purpose of this interagency program solicitation is the development of next generation health and healthcare research through high-risk, high-reward advances in the understanding of and applications in information science, technology, behavior, cognition, sensors, robotics, bioimaging, and engineering. Collaboration between academic, industry, non-profit and other organizations is strongly encouraged to establish better linkages between fundamental science, clinical practice and technology development, deployment and use.

This solicitation is aligned with the visions (e.g., PCAST, NRC, IOM) calling for major changes in health and wellbeing as well as healthcare delivery and is aimed at the fundamental research to enable the change. Realizing the promise of disruptive transformation in health and healthcare will require well-coordinated, multi-disciplinary approaches that draw from the social, behavioral, and economic sciences, engineering, medicine, biology, and computer and information sciences. One class of proposals will be considered in response to this solicitation, Integrative Projects (INT), with multi-disciplinary teams spanning 1 to 4 years. As detailed in this solicitation, appropriate scientific areas of investigations may be related to any of the participating funding organizations. Questions concerning a particular project's focus, direction and relevance to a participating funding organization should be addressed to the appropriate person found below and in the list of agency contacts found in section VIII of the solicitation.

Awards: Up to \$2,000,000. Anticipated funding amount: \$20,000,000

Letter of Intent: Not Required

Full Proposal Submission Due Date: December 8, 2016

Contacts:

- Wendy Nilsen, Program Contact: Directorate for Computer and Information Science and Engineering, Division of Information and Intelligent Systems, 1125, telephone: (703) 292-2568, email: wnilsen@nsf.gov

Grant Program: Condensed Matter and Materials Theory (CMMT)**Agency: National Science Foundation NSF 16-596****RFP Website:** <http://www.nsf.gov/pubs/2016/nsf16596/nsf16596.htm>

Brief Description: CMMT supports theoretical and computational materials research in the topical areas represented in DMR's core or individual investigator programs, which include: Condensed Matter Physics (CMP), Biomaterials (BMAT), Ceramics (CER), Electronic and Photonic Materials (EPM), Metals and Metallic Nanostructures (MMN), Polymers (POL), and Solid State and Materials Chemistry (SSMC). The program supports fundamental research that advances the conceptual understanding of hard and soft materials, and materials-related phenomena; the development of associated analytical, computational, and data-centric techniques; as well as predictive materials-specific theory, simulation, and modeling for materials research. The broad spectrum of research supported in CMMT includes first-principles, quantum many-body, statistical mechanics, classical and quantum Monte Carlo, and molecular dynamics methods. Computational efforts span from workstations to advanced and high-performance scientific computing. Emphasis is on approaches that begin at the smallest appropriate length scale, such as electronic, atomic, molecular, nano-, micro-, and mesoscale, required to yield fundamental insight into material properties, processes, and behavior, to predict new materials and states of matter, and to reveal new materials-related phenomena. Approaches that span multiple scales of length and time may be required to advance fundamental understanding of materials properties and phenomena, particularly for polymeric materials and soft matter. Examples of areas of recent interest appear in the program description.

CMMT encourages potentially transformative theoretical and computational materials research, which includes but is not limited to: i) developing materials-specific prediction and advancing understanding of properties, phenomena, and emergent states of matter associated with either hard or soft materials, ii) developing and exploring new paradigms including cyber- and data-enabled approaches to advance fundamental understanding of materials and materials related phenomena, or iii) fostering research at interfaces among subdisciplines represented in the Division of Materials Research.

Research involving significant materials research cyberinfrastructure development, for example, software development with an aim to share software with the broader materials community, should be submitted to CMMT through Computational and Data-Enabled Science and Engineering (CDS&E) within its annual proposal submission window in the fall.

Additional Information

Eligibility rules apply for submissions; please see the Program Description section of the CMMT solicitation for details.

Awards: Standard Grants. Anticipated funding amount: \$15,000,000**Letter of Intent:** Not Required**Full Proposal Submission Due Date:** Anytime

Limit on Number of Proposals per PI or Co-PI: The submission date of a proposal from an investigator, whether PI or co-PI, to the CMMT program cannot be within 6 months before or after the submission date of any proposal from that same investigator, whether PI or co-PI, to any DMR disciplinary research activity program (also called individual-investigator program) or the Chemical Theory, Models and Computational Methods program in the Division of Chemistry. Failure to observe this submission constraint may lead to the CMMT proposal being returned without review. Investigators with proposals submitted to the DMREF, PREM, MRSEC, and MIP programs may have a concurrent CMMT submission. In addition, investigators must wait at least 12 months between submissions to CMMT.

Contacts:

- Daryl W. Hess, telephone: (703) 292-4942, email: dhess@nsf.gov
 - Alexios Klironomos, telephone: (703) 292-4920, email: aklirono@nsf.gov
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Grant Program: ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers (ADVANCE)

Agency: National Science Foundation NSF 16-594

RFP Website: <http://www.nsf.gov/pubs/2016/nsf16594/nsf16594.htm>

Brief Description: Despite significant increases in the proportion of women pursuing science, technology, engineering, and mathematics (STEM) doctoral degrees, women are significantly underrepresented as faculty, particularly in upper ranks, and in academic administrative positions, in almost all STEM fields. The problems of recruitment, retention, and advancement that are the causes of this underrepresentation vary by discipline and across groups of women faculty (e.g., by race/ethnicity, disability status, sexual orientation, foreign-born and foreign-trained status, and faculty appointment type). The ADVANCE program is designed to foster gender equity through a focus on the identification and elimination of organizational barriers that impede the full participation and advancement of all women faculty in academic institutions. Organizational barriers that inhibit equity may exist in areas such as policy, practice, culture, and organizational climate. For example, practices in academic departments that result in the inequitable allocation of service or teaching assignments may impede research productivity, delay advancement and create a culture of differential treatment and rewards. Policies and procedures that do not mitigate implicit bias in hiring, tenure, and promotion decisions could mean that women and underrepresented minorities are evaluated less favorably, perpetuating their underrepresentation and contributing to a climate that is not inclusive.

The goals of the ADVANCE program are (1) to develop systemic approaches to increase the representation and advancement of women in academic STEM[1] careers; (2) to develop innovative and sustainable ways to promote gender equity that involve both men and women in the STEM academic workforce; and (3) to contribute to the research knowledge base on gender equity and the intersection of gender and other identities in STEM academic careers. The ADVANCE program contributes to the development of a more diverse science and engineering workforce because of the focus on equity for STEM academic faculty who are educating, training, and mentoring undergraduate and graduate students and postdoctoral scholars.

There are three program tracks. All projects are expected to build on prior ADVANCE work and gender equity research and literature to broaden the implementation of organizational and systemic strategies to foster gender equity in STEM academic careers. All ADVANCE proposals are expected to recognize that gender does not exist in isolation from other characteristics, such as race/ethnicity, disability status, sexual orientation, foreign-born and foreign-trained status, faculty appointment type, etc., and should offer strategies to promote gender equity for all faculty:

- The ***Institutional Transformation (IT)*** track supports the development of *innovative* organizational change strategies to produce comprehensive change within one non-profit two-year or four-year academic institution across all STEM disciplines. ***IT*** projects are also expected to contribute new research on gender equity in STEM academics. Projects that do not propose innovative strategies may be more appropriate for the ***Adaptation*** track.
- The ***Adaptation*** track supports the adaptation and implementation of evidence-based organizational change strategies, ideally from among those developed and implemented by ADVANCE projects. ***Adaptation*** awards may support the adaptation and

implementation of proven organizational change strategies within a non-profit two-year or four-year academic institution that has not had an ADVANCE *IT* award. **Adaptation** awards may also be made to a STEM organization to implement systemic change strategies focused across all STEM disciplines, several STEM disciplines, or within one STEM discipline.

- The **Partnership** track will support partnerships of two or more non-profit academic institutions and/or STEM organizations to increase gender equity in STEM academics. Projects should have national or regional impact and result in systemic change within one STEM discipline, several STEM disciplines, or all STEM disciplines. Partnering STEM organizations can include any entity eligible for NSF support. Partners may include professional societies, industry, non-profit organizations, publishers, policy and research entities, state systems of higher education, higher education organizations, as well as institutions of higher education. **Partnership** proposals must include a final year focused on sustainability and/or scale-up, communication, and evaluation.

Awards: Standard Grants. Anticipated funding amount: \$22,200,000

Letter of Intent: Required: December 14, 2016

Preliminary Proposal Due Date(s) (required): April 12, 2017

Limit on Number of Proposals per Organization: 1

One for *IT-Preliminary*, *Institutional Transformation (IT)*, or *Adaptation*; no limit for *Partnership*, *ADVANCE Resource and Coordination Network*, and *ADVANCE Longitudinal Evaluation*:

- **IT-Preliminary:** Non-profit academic institutions are allowed to submit one preliminary proposal in the competition.
- **IT and Adaptation:** Non-profit academic institutions are allowed to submit one proposal in the competition to **either** the *IT* (if invited after the preliminary proposal stage) or the **Adaptation** track but not both.
- Non-profit, non-academic organizations are allowed to submit one **Adaptation** proposal in the competition and may also be a partner on **Partnership** and/or ADVANCE Resource and Coordination Network proposals.

A non-profit academic institution or non-profit, non-academic organization may be a partner on multiple **Partnership** proposals in the same competition but lead only one and may also be a partner on an ADVANCE Resource and Coordination Network and/or an ADVANCE Longitudinal Evaluation proposal if appropriate.

Internal Notification: If planning to submit, *IT-Preliminary*, *Institutional Transformation (IT)*, or *Adaptation*, please send a notice of intent to your respective dean and research office at dhawan@njit.edu

Full Proposal Submission Due Date: January 11, 2017

Contacts:

- Dana Britton, Program Officer, telephone: (703) 292-5178, email: ADVANCE@nsf.gov
- Jessie DeAro, Program Officer, telephone: (703) 292-5350, email: ADVANCE@nsf.gov

National Institutes of Health

Grant Program: Antimicrobial Resistance Rapid, Point-of-Care Diagnostic Test Challenge Competition

Agency: National Institutes of Health NOT-OD-16-137

RFP Website: <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-16-137.html>

Brief Description: The U.S. Department of Health and Human Services (HHS) is holding a challenge prize competition in which up to \$20 million will be made available, subject to the availability of funds, for the delivery of one or more novel and innovative in vitro point-of-care diagnostics that would rapidly inform clinical treatment decisions and be of potential significant clinical and public health utility to combat the development and spread of antibiotic resistant bacteria. The National Institutes of Health (NIH) and the Biomedical Advanced Research and Development Authority (BARDA) of the Office of the Assistant Secretary for Preparedness and Response (ASPR) are sponsoring the prize competition for novel, innovative solutions for use in inpatient and/or outpatient settings.

This Challenge, structured in three steps, will incentivize a broad range of scientists, engineers, and innovators to develop in vitro diagnostic tests that would enable health care providers to make more informed decisions on appropriate antibiotic use and infection prevention. This competition may lead to the development of more sensitive, accurate, robust, and cost-effective assay approaches and devices for clinical diagnosis.

In this Challenge competition, the NIH and the BARDA are seeking proposals for the development of new, innovative, accurate, and cost-effective in vitro diagnostic tests that would rapidly inform clinical treatment decisions and be of significant clinical and public health utility to combat the development and spread of antibiotic resistant bacteria.

The prize-winning in vitro diagnostic(s) must meet a set of predefined technical criteria and performance characteristics based on the intended use(s), as described further below. Solutions submitted to this Challenge should have the potential to significantly improve clinical decision making compared to the current standard of care. Solutions also should be novel, innovative, rapid, and appropriate for use at the point-of-need. Ultimately the solution should be an in vitro diagnostic assay(s) that can:

- 1) improve antibiotic decision making by health care providers and be effective in reducing inappropriate use of antibiotics
- 2) demonstrate a clinically significant advance in diagnostic test performance and address gaps or deficiencies in current capabilities that may include, but are not limited to: ease of use; time to result; significant advances in sensitivity and specificity; and ability to process a broad range of specimen types.

Solutions describing existing, well-established and/or currently supported approaches, especially commonly used strategies are not of interest unless a compelling case is made that potentially clinically significant, quantifiable advances are achievable and/or the methods and measures are used in unique combinations that have not been previously tested together for the detection/diagnosis of drug resistant bacteria.

Deadline: To register and submit for this Challenge, Solvers may access the registration and submission platform from any of the following:

- 1) Access the www.challenge.gov website and search for “Antimicrobial Resistance Rapid, Point-of-Need Diagnostic Test.”
- 2) Access the Antimicrobial Resistance Rapid, Point-of-Need Diagnostic Test website; a registration link for the Challenge can be found on the landing page under “Challenge Description.”
- 3) Access the website of the Challenge administered for NIH by Capital Consulting Corporation at <http://www.ccinnovationcenter.com/challenges/antimicrobial-resistance-diagnostic-challenge/>.

Phase One: Initial Concepts Submitted and Semifinalists Selected

From all submitted concepts, up to 20 semifinalists will be chosen, each receiving up to \$50,000 to develop prototypes and analytical data for their diagnostic devices.

Deadline for submissions: January 9, 2017

Semifinalist selected: March 27, 2017

Grant Program: Innovation Corps (I-Corps™) at NIH Program for NIH and CDC Phase I Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Grantees (Admin Supp)

Agency: National Institutes of Health PA-16-414

RFP Website: <http://grants.nih.gov/grants/guide/pa-files/PA-16-414.html>

Brief Description: This funding opportunity announcement (FOA) seeks to develop and nurture a national innovation ecosystem that builds upon biomedical research to develop technologies, products and services that benefit society. Toward meeting this objective, the I-Corps™ program is being offered. The I-Corps™ at NIH program is focused on educating researchers and technologists on how to translate technologies from the lab into the marketplace. Under this FOA, participating NIH and CDC Institutes and Centers will provide administrative supplement awards to two cohorts of currently-funded SBIR and STTR Phase I grantees to support entrepreneurial training under the I-Corps™ at NIH Program. The program is designed to provide three-member project teams with access to instruction and mentoring in order to accelerate the translation of technologies currently being developed with NIH and CDC SBIR and STTR funding. It is anticipated that outcomes for the I-Corps™ teams participating in this program will include significantly refined commercialization plans and well-informed pivots in their overall commercialization strategies. Prospective applicants are strongly encouraged to contact NIH or CDC Scientific/Research staff for more information about the program before applying.

The goal of the I-Corps™ Program is to accelerate the translation of biomedical research to the marketplace by providing training to SBIR and STTR grantees in the areas of innovation and entrepreneurship. Under this program, the NIH and CDC foster the development of early-stage biomedical technologies, focus on teaching researchers how to gain a clearer understanding of the value of their inventions in the marketplace, and ultimately how to advance their technologies from the research lab into the commercial world. This program is designed to complement activities within the scope of the parent SBIR Phase I (R43) or STTR Phase I (R41) grant or the Phase I portion of an SBIR/STTR Fast-Track grant (R43/R41, respectively), to help accelerate the commercialization of new products and services derived from NIH and CDC funded technical feasibility studies.

Through this program, I-Corps™ teams will participate in an Entrepreneurial Immersion course. The I-Corps™ curriculum uses a hypothesis-driven method of customer discovery in order to gain insights into the issues associated with technology commercialization. As part of this program, participants are required to get “out of the lab” and gather information by conducting a large number of interviews (i.e., 100+) with potential customers, strategic partners, and other third-party stakeholders. During the course, I-Corps™ teams share what they learn with other teams, gaining new insights into the prospective impact of the technology being developed under the SBIR or STTR grant. It is anticipated that the feedback and learning gained during the I-Corps™ program will help inform future Phase II SBIR/STTR projects and commercialization strategies.

The I-Corps™ at NIH Program will be supported through administrative supplement awards to active NIH or CDC SBIR and STTR Phase I grantees. Administrative supplement awards are intended only to support travel and other costs associated with the training program. Two cohorts (24 teams per cohort) will be selected to participate in the I-Corps™ at NIH Program, which is expected to last approximately eight weeks. **The NIH anticipates that**

applicants receiving administrative supplements under this FOA will be enrolled in the I-Corps™ at NIH Program in one of two cohorts in 2017

Awards: Application budgets are limited to no more than \$50,000 in direct costs, and must reflect the actual needs of the proposed project.

The award budget should only be used to cover travel and other costs associated with participation in the I-Corps™ at NIH Program.

Letter of Intent: Not required.

Deadline: November 1, 2016; January 9, 2017, by 5:00 PM local time of applicant organization.

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: Centers of Biomedical Research Excellence (COBRE) (P20)

Agency: National Institutes of Health PAR-16-415

RFP Website: <http://grants.nih.gov/grants/guide/pa-files/PAR-16-415.html>

Brief Description: The application in response to this FOA must have a thematic scientific focus in a specific research area and may use basic, clinical, and/or translational research approaches, including community engagement and outreach research, to attain the goals of the proposed center. The center is intended to support investigators from several complementary disciplines. It will enable the institution to develop a critical mass of investigators and enhance their competitiveness in a specific research area that accelerates the rate at which those investigators compete for other complementary NIH, Federal or non-Federal external peer-reviewed research grant support. It is also anticipated that, in some instances, the support through this FOA will facilitate the development of new disease-specific research centers or augment the capability of existing centers.

Although the individual career development of the junior investigators is an important part of this program, the primary objective of the COBRE initiative is to build and develop thematic multi-disciplinary research centers. This is accomplished through the leadership of a peer-reviewed, funded investigator with expertise central to the research theme of the application. The scientific leadership provided by one or more established biomedical research faculty is critical to the success of this FOA, especially for the career guidance of promising junior investigators.

Although the individual career development of the junior investigators is an important part of this program, the primary objective of the COBRE initiative is to build and develop thematic multi-disciplinary research centers. This is accomplished through the leadership of a peer-reviewed, funded investigator with expertise central to the research theme of the application. The scientific leadership provided by one or more established biomedical research faculty is critical to the success of this FOA, especially for the career guidance of promising junior investigators.

Support for research core facilities necessary to carry out the objectives of the center may be proposed in the Overall Center Organization and Management Plan.

Administrative Core:

The administrative core will provide management in administrative, fiscal, and scientific aspects of the proposed COBRE center. The plans for the administrative core should identify established senior faculty members who will provide career guidance and oversight to the junior investigator; constructive evaluations by members of the External Advisory Committee (EAC, see details below); and how the COBRE PD/PI will coordinate the management of all of these individuals. An internal advisory committee may provide additional oversight and input, but this committee may not act as a substitute for the EAC.

Each junior investigator should have at least one scientific advisor. The advisor must be an established investigator who has demonstrated the ability to advise others through the acquisition of external support and the maintenance of an independent research laboratory. In some instance a suitable advisor may not be available within the applicant's institution, and it is therefore acceptable to enlist appropriate advisors from outside institutions, including institutions in non-IDeA states.

All research project leaders must submit an investigator-initiated Research Project Grant (RPG) application by the end of two years of COBRE support. It is expected that a research project investigator will be supported by the COBRE for 3 years and move to independent research support. COBRE support beyond three years may be provided in circumstances where the PD/PI and the EAC have carefully evaluated the progress and research project and concluded that continued support is justified. Support of a research project investigator by the COBRE mechanism beyond a total of 5 years is not allowed.

The award of a RPG to a junior investigator should be viewed as a milestone and a criterion for changing the status of an investigator from mentored support via the COBRE to independent investigator. A junior investigator also may be considered for a status change if independence is indicated by the acquisition of sufficient skills and knowledge. However, it is stressed that the goal of the COBRE program is to promote the development of an independent and sustainable center.

External Advisory Committee: Each COBRE must be advised by an EAC comprised of 3-5 scientists with national scientific reputations in their fields. Their expertise must be directly relevant to the scientific theme of the COBRE. The EAC critiques the scientific progress of the COBRE and also offers advice on scientific matters to the COBRE PD(s)/PI(s). The EAC will be involved in developing and planning concepts and programs, encouraging and assisting faculty development and career guidance, identifying resources, evaluating the development of the center, evaluating the progress of the individual research projects, and evaluating the junior investigators' progress toward acquiring independent status. The PD(s)/PI(s) will share the advice and critiques provided by the EAC with other COBRE investigators at the center. The EAC also will review and recommend candidate investigators for replacement/substitute projects, as required, before such requests are forwarded to the NIGMS for programmatic review. The EAC should meet at least twice per year. Video-, teleconferencing or other means may be used in situations where it would be difficult to hold an in-person meeting. The applicant should not contact potential EAC members or provide the names of potential EAC members during the preparation or review of the application as this complicates the peer review process.

Research Core: Funds may be requested to establish core facilities. Although the COBRE award is not intended to replace support for ongoing investigator-initiated research projects, all center participants, including the advisors, as well as other non-center investigators at the institution, may use core facilities.

Sharing research resources among COBRE and IDeA Networks of Biomedical Research Excellence (INBRE) investigators is strongly encouraged. As much as practicable, applicants should seek to utilize existing equipment and instrumentation supported by other COBRE or INBRE awards.

It is expected that proposed core should be unique and not duplicate services or facilities that already exist at the applicant institution. Utilization/modification/expansion of existing resources to accomplish the goals of proposed research is strongly encouraged. Proposed research cores that appear to replicate services already available at the applicant institution will not be allowed without extensive justification.

Research Projects: The individual research projects should stand alone, but share the COBRE's common thematic scientific focus. Each research project should be led by a single junior investigator who is responsible for ensuring that the Specific Aims of that project are met.

Alteration and Renovation: Alteration and Renovation (A&R) costs to improve existing research laboratories or animal facilities are allowed. A&R projects must be relevant to the scope of the proposed research.

Awards: The annual budgets must not exceed \$1.5 million in direct costs. Additional direct costs in year one only of up to \$300,000 as a one-time expenditure for Alteration and Renovation may be requested.

Letter of Intent: 30 days prior to the application due date

Deadline: January 24, 2017; January 24, 2018; and January 24, 2019, by 5:00 PM local time of applicant organization. All types of 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: Young Investigator Program (YIP)

Agency: Office of Naval Research **ONR N00014-16-S-FO15**

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

Brief Description: The Office of Naval Research (ONR) is interested in receiving proposals for its Young Investigator Program (YIP). ONR's Young Investigator Program (YIP) seeks to identify and support academic scientists and engineers who are in their first or second full-time tenure-track or tenure-track-equivalent academic appointment, have begun their first appointment on or after 04 November 2011, and who show exceptional promise for doing creative research. The objectives of this program are to attract outstanding faculty members of Institutions of Higher Education (hereafter also called "universities") to the Department of the Navy's research program, to support their research, and to encourage their teaching and research careers.

Applicants are STRONGLY ENCOURAGED to contact the appropriate Program Officer who is the point of contact for a specific technical area to discuss their research ideas. A list of Program Officers and their contact information can be found at: <http://www.onr.navy.mil/en/Science-Technology/Contacts.aspx> Brief informal pre-proposals may be submitted to facilitate these discussions but are not required. Such discussions can clarify the content and breadth of the priority research areas and enhance the match between a subsequent proposal and Department of the Navy research needs. Please allow adequate time for such discussions with the ONR Program Officer.

An individual wishing to apply for a Young Investigator award must submit a research proposal and at least one letter of support through the appropriate university officials. Refer to Section V "Evaluation Information" regarding the importance of the letter(s) of support in the overall evaluation criteria and Section IV "Application and Submission Information" regarding its content. The research proposal should follow the format described in FOA Section IV entitled, "Application and Submission Information." ONR makes awards to institutions, not to individuals.

Offerors may request up to \$170,000 per year for three (3) years. These funds may be budgeted against any reasonable costs related to conducting the proposed research, for example, salary for the Young Investigator, graduate student support, supplies, and applicable

indirect cost. Additional funds (beyond the basic \$170,000 yearly amount) for capital equipment which enhances the Young Investigator's proposed research may be requested for the first budget period based on the needs of the research.

The competition for YIP awards continues to be intense. In 2016 more than 260 proposals were received resulting in 47 Young Investigator awards. Past awardees have both submitted outstanding research proposals and possessed outstanding records of prior professional accomplishments. Given that "past performance" is a selection criterion, applicants are advised that the biographical information submitted as part of the proposal (see "Qualifications" under "Proposal Content," below) should list all relevant past and present activities. See Section V, "Evaluation Information" for more details regarding evaluation of submitted proposals.

Proposals not selected for the Young Investigator Program may be considered for grant award under the ONR Long Range Broad Agency Announcement. Under the ONR Long Range BAA, grant proposals would be in competition with all other research proposals submitted in response to the ONR Long Range BAA. Historically, only a limited number of proposals initially submitted to the YIP received funding under the ONR Long Range BAA. The YIP is not a "research initiation" opportunity with standards that are less demanding than ONR's other research grant programs; instead, it is intended to confer honor upon awardees beyond the funding being provided. Consideration of any YIP proposal to another ONR research grant program is at the discretion of the cognizant program officer

Awards: Proposed research should be structured to have a three (3) year period of performance beginning 01 June 2017. It is anticipated that individual awards will be up to \$170,000 per year for three (3) years (with the possibility of greater support for equipment and/or to support additional, collaborative research with a Navy laboratory). The \$170,000 limit includes all funds paid to the university, including all indirect costs.

Questions Due: 07 October 2016 (Friday) 3:00 PM Eastern Daylight Time (EDT)

Full Proposal Deadline: Full Proposals: The due date for receipt of Full Proposals is 11:59 PM (EDT) on Friday, 04 November 2016. Full proposals received after the published due date and time will not be considered. It is STRONGLY recommended that proposals be uploaded sufficiently in advance to avoid any possible delays with Grants.gov.

After the final full proposal evaluation process is completed, offerors will be notified via email of their project's selection or non-selection for FY17 funding.

Department of Energy

Grant Program: Request For Information On Potential Technical Focus Areas For Advanced Manufacturing - Related Traineeships

Agency: Department of Energy DE-FOA-0001635

Website: <https://eere-exchange.energy.gov/#Foaid701f4169-15f7-46ae-85af-99acb2ab9c0c>

Brief Description: The Department of Energy (DOE) funds university-led traineeship programs that strategically address workforce training needs in key technical focus areas. The following objectives guide DOE's Office of Energy Efficiency and Renewable Energy (EERE) Advanced Manufacturing Office's (AMO) traineeship efforts:

- Advance the DOE mission relative to advanced manufacturing – DOE funded Traineeship Programs are designed and implemented to advance specific Science, Technology, Engineering and Math (STEM) workforce competencies required for the DOE's unique mission to ensure America's security and prosperity by addressing its science, energy, and environmental challenges.

- Address priority STEM workforce needs and identified gaps – DOE funded Traineeship Programs focus on advancing those critical STEM disciplines and competencies specifically relevant to the EERE and AMO missions where other U.S. Government or academic workforce development programs either do not exist or where DOE-relevant applications are not being leveraged to support specific DOE mission responsibilities.

In July 2015, EERE released a Funding Opportunity Announcement (FOA) to address emerging needs in graduate training enabling preparedness for the field of advanced Power Electronics Engineering careers beyond those in academia. As a result, EERE made two competitively-selected awards supporting five-year graduate-level programs in Power Electronics Engineering, leveraging existing DOE assets including the wide band gap National Network for Manufacturing Innovation (NNMI) Institute, PowerAmerica.

The purpose of this Request for Information (RFI) is to gather from industry, academia, research laboratories, government agencies, and other stakeholders on issues related to future EERE-funded and AMO-funded graduate-level Traineeships. This RFI is not a FOA; therefore, DOE is not accepting applications at this time.

Deadline: Responses must be received no later than 5:00pm (ET) on October 14th, 2016.

Contact Information:

- EERE-ExchangeSupport@hq.doe.gov
 - EERE Exchange support.
 - AMOTraineeship@ee.doe.gov
- Responses to this Request for Information
-

GE Healthcare Challenge

Grant Program: GE Healthcare Life Sciences - Sensors Challenge

Agency: GE Healthcare

Website: <https://gex.brightidea.com/SciencesSensors>

Brief Description: This Challenge seeks to identify sensor technologies and solutions that can improve customers’ operational efficiencies and reduce cell therapy production uncertainty by discretely sensing, monitoring and analyzing small organic molecules and proteins that are sealed within a bioreactor. The desired intention is that these sensor technologies and solutions will enable more precise monitoring of the biological environments within bioreactors without risking contamination or dramatically increasing the cost and complexity of the operation.

AWARDS AND OPPORTUNITIES

- **Phase 1** – Up to three (3) Phase 1 Entries will each be awarded a cash prize of \$5,000 USD (the “Initial Cash Prize”). The winning Phase 1 Entries will be eligible to participate in Phase 2 of the Challenge.
- **Phase 2** – Up to one (1) Phase 2 Entry will be selected as a Phase 2 winner and will be eligible to receive some amount of additional funding for up to a six month period, the amount of additional funding to be at the sole discretion of GE (“Grant Sponsor”). The additional funding will be taken from a total grant award pool of up to \$35,000 USD (“Grant Award”) and will be to continue further development of the Phase 2 winner’s Entry technology.

Upon completion of the six month funding period, Grant Sponsor may, at its own discretion and based on the merits of the proposed technology, explore further funding and/or purchase or licensing of the winning technology. Any further additional funding to the Phase 2 winner will be conditioned upon, but not limited to, the Phase 2 winner successfully entering into a mutually

agreeable business relationship with Grant Sponsor. GE Employees are not eligible to participate.

NJ Health Foundation

Grant Program: Research and Innovation Grants from NJHF

Agency: NJ Health Foundation

Website: <https://gex.brightidea.com/SciencesSensors>

- **Brief Description: Research Grants Program.** In a new round of funding, \$1 million is now available to provide grants for promising research projects to faculty and staff at affiliated organizations.

In our latest round of funding, \$1 million is available for the **New Jersey Health Foundation** Research Grants Program to provide grants up to \$35,000 each for research projects that demonstrate exciting potential and help applicants qualify for larger grants from other organizations to advance their research.**

Full-time faculty members and personnel at these organizations affiliated with New Jersey Health Foundation are able to apply:

- - Kessler Foundation
- - Princeton University
- - New Jersey Institute of Technology
- - Rowan University
- - Rutgers University
- - Stevens Institute of Technology

Applications for this round of funding will be accepted from September 6, 2016 through November 7, 2016.

Questions? E-mail researchgrant@njhf.org.

[Learn more and apply here.](#)

- **Innovation Grants Program.** Grants of up to \$50,000 each are available to researchers at affiliated organizations with promising ideas that may lead to developing patents or intellectual property. Contact your organization's Tech Transfer Department for more information.

New Jersey Health Foundation offers grants of up to \$50,000 to researchers with promising ideas that may lead to developing patents or intellectual property.*

Faculty and personnel from the organizations listed below are eligible to apply.

- Kessler Foundation
- New Jersey Institute of Technology
- Princeton University
- Rowan University
- Rutgers University
- Stevens Institute of Technology

Questions: E-mail Innovationfunding@njhf.org.

[Learn more.](#)

- **Foundation Venture Capital Group.** Foundation Venture Capital Group (FVCG) invests up to \$500,000 each to stimulate commercialization for new life science companies in emerging medical research and technology. To date, FVCG has invested in 10 companies. [Learn more.](#)

Simons Foundation

Grant Program: Simons Investigators in Mathematics, Physics, Astrophysics and Theoretical Computer Science

Simons Investigators in Mathematical Modeling of Living Systems (MMLS)

Agency: Simons Foundation

Website: <https://www.simonsfoundation.org/mathematics-and-physical-science/simons-investigators/>

Brief Description:

Basis for Awards: The intent of the Investigator in Mathematics, Physics, Astrophysics and Theoretical Computer Science programs is to support outstanding scientists in their most productive years, when they are establishing creative new research directions, providing leadership to the field and effectively mentoring junior scientists.

Level and Duration of Funding: A Simons Investigator in Mathematics, Physics, Astrophysics or Theoretical Computer Science is appointed for an initial period of five years. Renewal for an additional five years is contingent upon the evaluation of scientific impact of the Investigator.

Eligibility: To be an Investigator in Mathematics, Physics, Astrophysics or Theoretical Computer Science, a scientist must be engaged in theoretical research in mathematics, physics or computer science and must have a primary appointment as a faculty member at a U.S., Canadian or U.K. institution with a Ph.D. program and not have previously been a Simons Investigator

Awards: An Investigator will receive research support of \$100,000 per year. An additional \$10,000 per year will be provided to the Investigator's department. The award is administered through the institution at which the Investigator is appointed, and this institution will receive 20% in indirect costs.

Allowable Expenses: The funding provided to the Investigator may be used at the Investigator's discretion to support research expenses, including salary support for postdoctoral, graduate or undergraduate research assistants, domestic or international travel, short or long-term visitors, and research equipment.

Funding provided for the Investigator's department would be used at the discretion of the department Chair to provide support for seminars, visitors, refreshments, and related expenditures that benefit the research activities of the department.

Simons Investigators in MMLS

Basis for Awards: The intent of the Investigator in MMLS program is to help launch the research careers of outstanding junior scientists. Nominees to the program will normally be in the first few years of their first faculty appointment. Nominations will be evaluated on the basis of nominees' potential for scientific accomplishment.

Eligibility: To be a Simons Investigator in MMLS, a scientist must be engaged in research related to the program, must not previously have been a Simons Investigator, and must have a primary appointment as a faculty member at an educational institution in the United States, Canada, or United Kingdom with a Ph.D. program. At the time of appointment, an Investigator should be in the early stages of an academic career (within eight years of the start of his/her first faculty position) and, typically, be holding an assistant professorship or equivalent position.

Awards: **Level and Duration of Funding:** A Simons Investigator in MMLS is appointed for a period of five years. An Investigator in MMLS will receive research support of \$100,000 per year. An additional \$10,000 per year will be provided to the Investigator's department. The award is administered through the institution at which the Investigator is appointed, and this institution will receive 20% in indirect costs.

Allowable Expenses: The funding provided to the Investigator in MMLS may be used at the Investigator's discretion to support research expenses, including salary support for postdoctoral, graduate or undergraduate research assistants, domestic or international travel, short or long-term visitors, and research equipment.

Funding provided for the Investigator's department would be used at the discretion of the department Chair to provide support for seminars, visitors, refreshments, and related expenditures that benefit the research activities of the department.

Math+X Investigators

Basis for Awards: This program is designed to encourage novel collaborations between mathematics and other fields in science or engineering by providing funds to professors at U.S. and Canadian universities to establish programs at the interface between mathematics and other fields of science or engineering.

Eligibility:

- **Mathematics and X Partner Departments:** The X partner should be a department of science or engineering at the Investigator's university that will engage in significant collaboration with the mathematics department in an area where such collaboration is not the norm. Both departments must have doctoral programs.
- **Math+X Investigators:** The Math+X Investigator must be a current tenured faculty member with a primary appointment in the mathematics department at a U.S. or Canadian institution. The Investigator will be expected to teach both in the mathematics and the X partner departments and be appointed in both departments by the award's start date (courtesy appointments will be allowed).

Awards: Level and Duration of Funding: A Math+X Investigator is appointed for a period of five years and will receive support in an amount of \$300,000 per year, which includes up to 20 percent in indirect costs to the Investigator's institution. Renewal for an additional five years is contingent upon the evaluation of the scientific impact of the Investigator.

Allowable Expenses: The funding provided to a Math+X Investigator may be used at the Investigator's discretion to support activities that develop connections between mathematics and the X partner department discipline.

Information about other awards in Life Sciences Category on <https://www.simonsfoundation.org/life-sciences/>

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