

NJIT Research Newsletter

Issue: ORN-2017-29

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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Special Announcement

Office of Research Events: Fall 2017

Save the Date!

More information will follow.

Event: IRB Meeting

Date: September 12, 2017

Time: 11.30 AM – 1.30 PM

Place: 398 Fenster Hall

Event: Intellectual Property Open House

Date: September 18, 2017

Time: 12.00 PM – 2.00 PM

Place: Ballroom B, Campus Center

Event: Office of Research Open House

Workshop on Research Compliance and Ethics: Recent Updates

Workshop on Streamlyne Proposal Submission (for New Faculty)

Date: September 16, 2017

Time: 11.00 AM – 2.30 PM

Place: Ballroom A and B

Event: IRB Meeting

Date: October 10, 2017

Time: 11.30 AM – 1.30 PM

Place: 398 Fenster Hall

Event: Panel Discussion: NSF CAREER Award

Date: October 16, 2017
Time: 2.00 PM – 3.00 PM
Place: 398 Fenster Hall

Event: URI Workshop

Date: October 17, 2017
Time: 2.00 PM – 5.30 PM
Place: Ballroom A/B

Event: Faculty Research Advisory Board Meeting

Date: November 13, 2017
Time: 11.30 AM – 1.30 PM
Place: 398 Fenster Hall

Event: President's Forum and Research Centers and Labs Showcase

Date: November 16, 2017
Time: 10.00 AM – 2.30 PM
Place: Ballroom A/B/G

Event: IBC Meeting

Date: November 28, 2017
Time: 11.00 AM – 1.00 PM
Place: 398 Fenster Hall

Event: IRB Meeting

Date: December 5, 2017
Time: 11.30 AM – 1.30 PM
Place: 398 Fenster Hall

Event: URI Workshop

Date: December 6, 2017
Time: 2.00 PM – 5.30 PM
Place: Ballroom A/B

Internal Competition for NSF Innovations in Graduate Education (IGE) Program

Pre-proposals in the following format (maximum 5 pages) should be submitted to respective dean's office by September August 25, 2017. Deans are requested to forward up to 2 pre-proposals with their recommendations to the Office of Research at dhawan@njit.edu by September 4, 2017. Two pre-proposals will be selected after institutional review by Sept 8, 2017.

Pre-proposal Format (maximum 5 pages):

1. Title and key personnel with affiliation
2. Project Summary (1-page)
3. Internal and External Collaboration
4. Intellectual Merit: Innovation in Graduate Education

5. Broader Impact
6. Performance Assessment/Project Evaluation
7. Tentative Budget Summary and Any Resources Needed

Grant Program: Innovations in Graduate Education (IGE) Program

Agency: National Science Foundation NSF 17-585

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17585/nsf17585.htm>

Brief Description: The Innovations in Graduate Education (IGE) program is designed to encourage the development and implementation of bold, new, and potentially transformative approaches to STEM graduate education training. The program seeks proposals that explore ways for graduate students in research-based master's and doctoral degree programs to develop the skills, knowledge, and competencies needed to pursue a range of STEM careers.

IGE focuses on 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. The program supports testing of novel models or activities with high potential to enrich and extend the knowledge base on effective graduate education approaches.

The program addresses both workforce development, emphasizing broad participation, and institutional capacity building needs in graduate education. 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:** \$4,000,000

Limit on Number of Proposals per Organization: 2

An eligible organization may participate in two Innovations in Graduate Education 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. Proposals that exceed the institutional eligibility limit (beyond the first two submissions based on timestamp) will be returned without review regardless of the institution's role (lead, non-lead, subawardee) in the returned proposal..

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 IGE program per annual competition. Proposals that exceed the PI/Co-PI eligibility limit (beyond the first submission based on timestamp) will be returned without review.

Letter of Intent: Not Required

Proposal Submission Due Date: October 25, 2017

Contacts: Laura B. Regassa, telephone: (703) 292-2343, email: lregassa@nsf.gov

- Tara L. Smith, telephone: (703) 292-7239, email: tsmith@nsf.gov
- Stephen Mulkey, telephone: (703) 292-8954, email: smulkey@nsf.gov

NSF NJIT I-Corps Site Mini-Grants

NSF NJIT I-Corps Site

Grant Program: NSF NJIT I-Corps Site Mini-Grants

Agency: NSF Site-NJIT

RFP Website: <https://judithsheft.wufoo.com/forms/m1r5c7ou1uoz0xd/>

Brief Description: NJIT has been designated as an NSF I-Corps Site and through the NJIT School of Management and NJ Center for Innovation Acceleration, we will provide specialized training and mini grants of up to \$3,000 to teams interested in exploring the commercial viability of their ideas for products and businesses that are based on their own inventions or NJIT intellectual property.

Do you have an exciting technology that works in the lab? Would you like help to start a company to commercialize the technology? Do you want to test a prototype in the real-world environment?

Benefits: Learn the lean start up methodology – an approach that has significant advantages over traditional business planning / new product development approaches.

Get out of the building and spend the majority of your time talking to potential customers to discover how your technology could effectively ‘solve’ customers’ unmet needs or pain points.

Make connections with experienced entrepreneurs and investors that can lead to potential follow-on support or collaboration

Eligibility: I-Corps mini grants are available to teams made up NJIT students and faculty. Each team must have:

- an entrepreneurial lead (typically an NJIT undergraduate or graduate student(s))
- an academic lead researcher/advisor (faculty member)
- a business mentor with significant entrepreneurial business experience.

The NJIT I-Corps Program Managers (Dr. Michael Ehrlich and Ms. Judith Sheft) will provide assistance to complete teams as necessary. You must have at least 2 team members identified to apply. All team members must be able to participate for the 6 month project duration.

Awards and Expectations over Grant Period: Following the Mandatory Team Orientation meeting, the teams will be expected to participate in a self paced learning exercise for the Lean Startup Method, which is set up on Moodle. There will be several follow on mandatory team meetings scheduled to help provide support and to keep teams on target. There are video lessons, written assignments, and quizzes to help you keep on track. Teams will also be expected to get out of the building/lab and to interview prospective customers. Interview best practices and samples are posted in Moodle. This first phase should be completed within three months and could be done in as little as 30 days. Funding will be released in conjunction with this learning activity.

For the remainder of the grant period, we expect teams to advance the commercialization of their new technology to get to a GO/NO-GO point at which they will know whether they want to proceed.

Next steps for a GO decision could include an application for a \$50,000 NSF I-Corps Grant, Submission of an SBIR application for \$75,000-150,000, Submission of a NSF PFI-AIR-TT grant for \$200,000, and Pitches before Angel Investors.

Deadline for Submissions: Thursday September 13, 2017

Interviews of Finalists: September 18-22, 2017

Announcement of Awards – September 29, 2017

Mandatory Team Orientation – Friday September 29, 2017 (Common Hour)

Other Mandatory Sessions: Weds Dec 13, 2017 & Feb 14, 2018

Final Report Due Weds March 28, 2018

Contacts for Question:

- Dr. Michael Ehrlich – NJIT School of Management and Co-Director of the NJ Innovation Acceleration Center - ehrich@njit.edu

Judith Sheft Co- Director of the NJ Innovation Acceleration Center - sheft@njit.edu

Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

NSF: Inclusion Across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES); Improving Undergraduate STEM Education: Education and Human Resources (IUSE: EHR); Division of Molecular and Cellular Biosciences: Investigator-Initiated Research Projects (MCB); SBE Postdoctoral Research Fellowships (SPRF); Japan-US Network Opportunity 2 (JUNO2); Discovery Research PreK-12 (DRK-12)

NIH: Grant Program: BRAIN Initiative: Research on the Ethical Implications of Advancements in Neurotechnology and Brain Science (R01); CREATE Bio Optimization Track for Biologics (U01) (SBIR-U44); Point-of-Care Technologies Research Network Centers (U54); NIBIB Exploratory/Developmental Research Grant Program (R21); Ethical, Legal, and Social Implications (ELSI) of Genomics Exploratory/Developmental Research Grant Program (R21) (R01) (R03); Exploratory/Developmental Investigations on Primary Immunodeficiency Diseases (R21)

Department of Defense/US Army/DARPA/ONR: Breast Cancer Research Program Innovator Award; DoD, Peer Reviewed Alzheimer's Research

Department of Energy: Advanced Manufacturing Graduate-Level Traineeships; Photovoltaics (PV) Innovation Roadmap

NASA: ROSES 2017: Discovery Data Analysis; ROSES 2017: Rosetta Data Analysis

National Endowment of Humanities: Summer Stipends; Research and Development Grants

Pharma Foundation: Research Grants and Fellowships

Simon Foundation: Foundation Grants

Recent Research Grant and Contract Awards

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

PI: Alexander Kosovichev (PI)

Department: Physics; Center for Heliophysics

Grant/Contract Project Title: Analysis of Chromospheric Evaporation from IRIS Observations

Funding Agency: NASA

Duration: 09/01/16-08/31/18

PI: Wenda Cao (PI) and Philip Goode (Co-PI)

Department: Center for Solar Terrestrial Research

Grant/Contract Project Title: International Collaborations to Optimize Scientific Output of the New Solar Telescope in Big Bear

Funding Agency: The National Astronomical Observatory of China

Duration: 01/01/14-12/31/18

PI: Christina Frederick (PI)

Department: Mathematical Sciences

Grant/Contract Project Title: Numerical Methods for Multiscale Inverse Problems and Applications to Sonar Imaging

Funding Agency: NSF

Duration: 09/01/17-08/31/20

PI: Alexander Kosovichev (PI), Vincent Oria (Co-PI) and Gelu Nita (Co-PI)
Department: Physics; Center for Heliophysics; Computer Science, CSTR
Grant/Contract Project Title: Earthcube Data Infrastructure: Intelligent Databases and Analysis Tools for Geospace Data
Funding Agency: NSF
Duration: 08/15/17-07/31/19

PI: Colette Santasieri (PI)
Department: NJII, NJIT
Grant/Contract Project Title: New Jersey Sea Grant Consortium
Funding Agency: NJ Sea Grant Consortia
Duration: 02/01/17-01/31/18

PI: Haimin Wang (PI), Ju Jing (Co-PI), Chang Liu (Co-PI), and Vasyl Yurchyshyn (Co-PI)
Department: Center for Solar Terrestrial Research
Grant/Contract Project Title: Data-Constrained, Data-Driven and Laboratory-Tested MHD Simulations to Understand the Successful and Failed Solar Eruptions
Funding Agency: NASA
Duration: 06/23/17-06/22/20

PI: Richard Foulds (PI) and Sergei Adamovich (Co-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: Daphne Soares (PI)
Department: Biological Sciences
Grant/Contract Project Title: Plasticity in the CNS of Blind Fish After Eye Regeneration
Funding Agency: NIH
Duration: 09/01/17-08/31/20

PI: Kurt Rohloff (PI)
Department: Computer Science
Grant/Contract Project Title: RAMPARTS: Rapid Machine-learning Processing Applications and Reconfigurable Targeting of Security
Funding Agency: DARPA
Duration: 08/31/16-08/30/18

In the News...

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

National Academies and NSF Report on Engineering Research Centers (ERC): The May 2017 report by the National Academies won't be quite the last word on the future direction of NSF's acclaimed Engineering Research Centers. Dawn Tilbury, NSF's assistant director for engineering, **told the NSB** a working group will gather input from ERC program managers, other NSF center managers, other recent reports; analyze recommendations from the report (and the difficulty of implementation vs. potential benefit to the program; prioritize report recommendations, in context and comparison with other NSF center-scale programs (STC, MRSEC); and then draft a solicitation for future ENG center programs. Full proposals won't be due until early 2019, with awards likely coming the following year. Among the report's recommendations is a change in how ERCs are measured. Whereas current reporting emphasizes funding, students, papers, and patents, NSF should try to measure ERC impact: placement of students in positions of influence (and) evidence of center products being widely used. These will be hard to quantify, Tilbury says. The power point presentation on the report is posted on the website <https://www.nsf.gov/nsb/meetings/2017/0815/presentations/20170815-CS-Open-Center-Based-Research-Presentation.pdf>

Research Integrity: In 2007, Congress passed the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act (America COMPETES Act), which among other things directed NSF to introduce a requirement for awardees to provide adequate training for undergraduate students, graduate students, and postdoctoral researchers about the Responsible Conduct of Research (RCR).

By law, the National Science Foundation is supposed to require that institutions receiving grants train their undergraduates, graduate students, and postdoctoral researchers about the responsible conduct of research (RCR). NSF's Office of Inspector General (OIG) checked out 48 institutions and found that 11 - 23 percent - did not have an RCR plan or a designated person to make sure that the required participants took the training. Eight of the 11 developed a plan after being contacted by the OIG. **In a report**, the OIG says: "The lack of guidance from NSF as to what constitutes 'appropriate training' means that NSF cannot guarantee that the instruction provided in response to the RCR training requirement meets a minimum level of quality"; "Some institutions are engaged in promising practices or using techniques that are worthy of being shared with the broader community"; "No institutions are conducting risk assessments, despite the fact that NSF's FAQ says that they should"; "Requiring RCR training only for participants supported by NSF can have negative consequences"; and, "Although faculty play a critical role in the research enterprise and constitute a significant percentage of research misconduct subjects, only 15 percent of the plans we reviewed require faculty to take RCR training." More information on https://www.nsf.gov/oig/pdf/RCR_MIR_Final_7-25-17.pdf

NIH Plans to Re-issue Development of Next Generation Human Brain Imaging Tools and Technologies: The NIH Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative intends to reissue RFA-EB-17-002, Development of Next Generation Human Brain Imaging Tools and Technologies, with modifications. This funding opportunity aims to support full development of entirely new or next generation noninvasive human brain imaging tools and methods that will lead to transformative advances in our understanding of the human brain. The FOA seeks innovative applications that are ready for full-scale development of breakthrough technologies with the intention of delivering working tools within the timeframe of the BRAIN Initiative. The FOA represents the second stage of the tool/technology development effort that started with [RFA-MH-14-217](#) and [RFA-MH-15-200](#). This FOA solicits applications proposing full development for next generation human brain imaging and breakthrough technologies that would

overcome existing barriers. If developed, such technologies would enable imaging and measuring brain processes in ways that are currently unachievable, thereby acquiring fundamental novel insight about how the human brain is organized and functions. This FOA will provide the needed resources to support teams to meet the grand challenges of developing novel and transformative interdisciplinary approaches to human brain imaging. The intended outcome is bold, high-impact, and disruptive tools and methods for human neuroscience that can be used practically and ethically in healthy humans irrespective of disease state. More information is posted on the website <https://grants.nih.gov/grants/guide/notice-files/NOT-EB-17-006.html>

NSF Policy and Awards Update (May 2017): NSF Pilots a New Collaborator and Other Affiliations Template: Last month NSF began piloting a new format for submitting Collaborators and Other Affiliations Information in FastLane. Proposers are required to include collaborators and other affiliations information for principal investigators (PIs), co-PIs and other senior project personnel. NSF uses this information to manage reviewer selection. The pilot standardizes the collection of this data across the Foundation and ensures that the information is submitted in a searchable format. This reduces the burden on NSF program staff who currently must spend time manipulating non-searchable files. Likewise, for the community, proposers can rest assured knowing that their format is acceptable to NSF. The new format requires PIs, co-PIs and other senior project personnel who are identified on the proposal to individually upload their Collaborators and Other Affiliations Information as a Single Copy Document which are only seen by NSF staff and not by reviewers.

Proposers will be directed to the new spreadsheet template while in FastLane. The template is fillable, and the content and format requirements must not be altered by the user. Proposers should not convert the file to PDF format prior to submitting the proposal to NSF, rather it should be completed and saved in .xlsx or .xls format to ensure preservation of searchable text, and uploaded into FastLane as a Single Copy Document. Using any other file format may delay the timely processing and review of the proposal. The template has been tested in Microsoft Excel, Google Sheets and LibreOffice. In addition to benefiting the merit review process, this template provides a compliant and reusable format for PIs to maintain and update for use in subsequent proposal submissions to NSF. The new Collaborators and Other Affiliations pilot only applies to FastLane proposal submissions. Grants.gov proposal submissions shall continue to follow the instructions in the Grants.gov Application Guide, Chapter VI. 2.4. More information on https://www.nsf.gov/pubs/2017/nsf17084/nsf17084.pdf?WT.mc_id=USNSF_109

Webinar and Events

Event: Pre-Application Webinar for the Common Fund Metabolomics Program Stage 2 FOAs (RFA-RM-17-011, RFA-RM-17-012, RFA-RM-17-013, and RFA-RM-17-014)

When: August 28, 2017; 12.00 PM

Website: <https://grants.nih.gov/grants/guide/notice-files/NOT-RM-17-036.html>

About the Webinar: The NIH Common Fund will hold a single pre-application interactive Q&A webinar August 28, 2017 from noon-1:30 PM EDT for the four Funding Opportunity Announcements (FOAs) for Stage 2 of the Common Fund Metabolomics Program ([RFA-RM-17-011](#), [RFA-RM-17-012](#), [RFA-RM-17-013](#), [RFA-RM-17-014](#)). NIH staff will discuss the overall structure and goals of the Metabolomics Program and the specific FOAs, and answer questions from prospective applicants. Pre-registration for the webinar is required and participants are

asked to submit their questions ahead of time to the mailbox below. Participation in the webinar is optional. The slide set for the webinar is available on the [NIH Common Fund Metabolomics](#) webpage.

Register: To join the webinar, [pre-registration is required through WebEx](#). Please send advance questions by August 24, 2017 to CFMetabolomics@mail.nih.gov.

Event: Young Faculty Award (YFA) Proposers Day

When: Webcast on August 29, 2017 from 2:00 PM to 5:00 PM

Website: <https://www.fbo.gov/spg/ODA/DARPA/CMO/DARPA-SN-17-70/listing.html>

About the Webinar: The DARPA Young Faculty Award (YFA) program aims to identify and engage rising stars in junior faculty positions in academia and equivalent positions at non-profit research institutions and expose them to DoD and National Security challenges and needs. In particular, YFA will provide high-impact funding to elite researchers early in their careers to develop innovative new research directions in the context of enabling transformative DoD capabilities. DARPA anticipates soliciting innovative research proposals in the areas of physical sciences, engineering, materials, mathematics, biology, computing, informatics, social science, robotics, neuroscience and manufacturing of interest to DARPA's Technology Offices.

Register: To join the webinar, register at <https://events.sa-meetings.com/YFAProposersDay>

Event: Emerging Frontiers in Research and Innovation Program - Informational Webinar

When: September 7, 2017 1:00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=242816&org=NSF

About the Webinar: On Thursday, September 7th, from 1:00 to 2:30 pm Eastern time, the NSF Office of Emerging Frontiers and Multidisciplinary Activities (EFMA) will host a webinar to discuss the FY 2018 program solicitation of the [Emerging Frontiers in Research and Innovation \(EFRI\) program](#).

EFRI investigators pursue cutting-edge, interdisciplinary research with the potential for transformative impacts on national needs and grand challenges.

During this webinar, potential proposers to the program will be able to learn more about EFRI and ask questions about the [new EFRI solicitation](#).

The FY 2018 EFRI topics are:

- Chromatin and Epigenetic Engineering (CEE)
- Continuum, Compliant, and Configurable Soft Robotics Engineering (C3 SoRo)

Webinar attendance is limited, so prior registration is required. For those unable to watch the webinar live, the slides will be posted with a summary of questions and answers on this announcement after the meeting.

Register: To join the webinar, register at <https://tinyurl.com/EFRI-9-7-2017>

Event: Drones on Campus: Policies to Achieve Institutional Compliance and Minimize Risk

When: Tuesday, September 26 ; 2.00 PM – 3.30 PM

Website: <https://www.paper-clip.com/Main/product-catalog/3492.aspx>

About the Webinar: Since December 2015, over 800,000 drone owners have registered with the Federal Aviation Administration and it expects that number to triple in size to 3.55 million by 2021. Unmanned Aircraft Vehicle (UAV aka Drones) are being used by campuses in innovative ways to enhance research, improve learning, and elevate campus events.

As a result of the expansion of drone usage and rapid advancement of this technology, institutions along with federal and state governments have struggled to keep up and adapt laws and regulations regarding their use.

Join our expert presenter on September 26, 2017, and in just 90 minutes, you and your staff will learn about the **current types of UAV being used on your campus, identify federal, state and privacy laws that impact use of drones on your campus and enhance the educational mission of your institution through the use of this technology.**

Panelists: Shawn Troxler currently serves as an Associate General Counsel at North Carolina State University located in Raleigh, NC. ([Click here for full bio](#))

Grant Opportunities

National Science Foundation

Grant Program: Inclusion Across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES)

Agency: National Science Foundation NSF 17-591

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17591/nsf17591.htm>

Brief Description: Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES) is a comprehensive national initiative designed to enhance U.S. leadership in science, technology, engineering and mathematics (STEM) discoveries and innovations focused on NSF's commitment to diversity, inclusion, and broadening participation in these fields. The initiative is developing a National Network composed of NSF INCLUDES Design and Development Launch Pilots, NSF INCLUDES Alliances, NSF-funded broadening participation projects, other relevant NSF-funded projects, scholars engaged in broadening participation research, and other organizations that support the development of talent from all sectors of society to build the STEM workforce.

To facilitate the Network's operation, the program is soliciting proposals for a **NSF INCLUDES Coordination Hub** that will drive and support the work of the NSF INCLUDES National Network over the life-cycle of the initiative by: (a) promoting the NSF INCLUDES guiding vision and strategy; (b) developing a collaborative infrastructure to support the activities of the various entities partnering in the NSF INCLUDES National Network; (c) fostering progress among Network partners toward shared models, measurement practices, and evaluation criteria; (d) communicating the discoveries of and generating enthusiasm for the NSF INCLUDES National Network; and (e) advancing the expansion and scale of the NSF INCLUDES National Network by connecting expertise from multiple sectors and other private and public funders.

The three critical functions of the NSF INCLUDES Coordination Hub are summarized below:

1. **Communication and Networking:** From the beginning the NSF INCLUDES Coordination Hub should direct efforts toward building the Network infrastructure by facilitating continuous communication and information updates, designing community activities, and fostering collaboration across all elements of the Network.
2. **Network Assistance and Reinforcement:** As NSF INCLUDES Alliances and other organizations join the NSF INCLUDES National Network, the NSF INCLUDES Coordination Hub should focus attention on assistance and reinforcement activities including technical assistance, conducting research, and facilitating shared measurement and data analysis across the Network.
3. **Visibility and Expansion:** The NSF INCLUDES Coordination Hub should provide resources for efforts to focus on expansion and sustainability within the National Network, increase NSF INCLUDES visibility and communicate impact, while also serving as a repository for

funding opportunities, research and knowledge generated by the NSF INCLUDES National Network and stakeholders.

Awards: Cooperative Agreement; **Anticipated Funding Amount:** \$10,500,000

Letter of Intent: Not Required

Limit on Number of Proposals per Organization: An organization may serve as the lead institution on only one NSF INCLUDES Coordination Hub proposal, although it may serve as a collaborating partner on other proposals.

Internal Pre-Proposal Review and Selection: Please send an email with a copy of the pre-proposal with project summary, collaborators, intellectual merit and broader impact sections to the Office of Research at dhawan@njit.edu by October 1, 2017 for internal review and selection.

Proposal Submission Due Date: November 27, 2017

Contacts: General inquiries may be addressed to:, telephone: (703) 292-7303, email: nsfincludes@nsf.gov

Grant Program: Improving Undergraduate STEM Education: Education and Human Resources (IUSE: EHR)

Agency: National Science Foundation NSF 17-590

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17590/nsf17590.htm>

Brief Description: The fields of science, technology, engineering, and mathematics (STEM) hold much promise as sectors of the economy where we can expect to see continuous vigorous growth in the coming decades. STEM job creation is expected to outpace non-STEM job creation significantly, according to the Commerce Department, reflecting the importance of STEM knowledge to the US economy.

The National Science Foundation (NSF) plays a leadership role in development and implementation of efforts to enhance and improve STEM education in the United States. Through the NSF *Improving Undergraduate STEM Education* (IUSE) initiative, the agency continues to make a substantial commitment to the highest caliber undergraduate STEM education through a Foundation-wide framework of investments. The IUSE: EHR program is a core NSF undergraduate STEM education program that seeks to improve the effectiveness of undergraduate STEM education for both majors and non-majors. The program is open to application from all institutions of higher education and associated organizations. NSF places high value on educating students to be leaders and innovators in emerging and rapidly changing STEM fields as well as educating a scientifically literate populace. In pursuit of this goal, IUSE: EHR supports projects that have the potential to improve student learning in STEM through development of new curricular materials and methods of instruction, and development of new assessment tools to measure student learning. In addition to innovative work at the frontier of STEM education, this program also encourages replications of research studies at different types of institutions and with different student bodies to produce deeper knowledge about the effectiveness and transferability of findings.

IUSE: EHR also seeks to support projects that have high potential for broader societal impacts, including improved diversity of students and instructors participating in STEM education, professional development for instructors to ensure adoption of new and effective pedagogical techniques that meet the changing needs of students, and projects that promote institutional partnerships for collaborative research and development. IUSE: EHR especially welcomes proposals that will pair well with the efforts of NSF INCLUDES (https://www.nsf.gov/news/special_reports/nsfincludes/index.jsp) to develop STEM talent from all sectors and groups in our society. Collaborations are encouraged between IUSE proposals and existing INCLUDES projects, provided the collaboration strengthens both projects.

For all the above objectives, the National Science Foundation invests primarily in evidence-based and evidence-generating approaches to understand and improve STEM learning and learning environments, improve the diversity of STEM students and majors, and prepare STEM majors for the workforce. In addition to contributing to STEM education in the host institution(s), proposals should have the promise of adding more broadly to our understanding of effective teaching and learning practices.

The IUSE: EHR program recognizes and respects the variety of discipline-specific challenges and opportunities facing STEM faculty as they strive to incorporate results from educational research into classroom practice and work with education research colleagues and social science scholars to advance our understanding of effective teaching and learning.

Toward these ends the program features two tracks: (1) Engaged Student Learning and (2) Institutional and Community Transformation. Two tiers of projects exist within each track: (i) Exploration and Design and (ii) Development and Implementation.

	<i>Exploration and Design</i>	<i>Development and Implementation</i>
Engaged Student Learning	Up to \$300K, for up to 3 years	Level 1: Up to \$600K, for up to 3 years Level 2: \$601K-\$2M, for up to 5 years
Institutional and Community Transformation	Up to \$300K, for up to 3 years	Up to \$3M, for up to 5 years

Awards: Standard Grant; **Anticipated Funding Amount:** \$73,000,000

Letter of Intent: Not Required

Proposal Submission Due Date:

December 12, 2017

Development and Implementation Tier for Engaged Student Learning & Institution and Community Transformation

December 11, 2018

Development and Implementation Tier for Engaged Student Learning & Institution and Community Transformation

Contacts: Myles G. Boylan, telephone: (703) 292-4617, email: mboylan@nsf.gov

- Ellen Carpenter, telephone: (703) 292-5104, email: elcarpen@nsf.gov

- Abiodun Ilumoka, telephone: (703) 292-2703, email: ailumoka@nsf.gov

Grant Program: Division of Molecular and Cellular Biosciences: Investigator-Initiated Research Projects (MCB)

Agency: National Science Foundation NSF 17-589

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17589/nsf17589.htm>

Brief Description: The Division of Molecular and Cellular Biosciences (MCB) supports quantitative, mechanistic, predictive, and theory-driven fundamental research designed to promote understanding of complex living systems at the molecular, subcellular, and cellular levels. While recognizing the need for thorough and accurate descriptions of biological complexes and pathways, the priority of the Division is to support work that advances the field by capturing the predictive

power of mechanistic, quantitative, and evolutionary approaches. MCB is soliciting proposals in four core clusters:

- Cellular Dynamics and Function
- Genetic Mechanisms
- Molecular Biophysics
- Systems and Synthetic Biology

MCB gives high priority to research projects that use theory, methods, and technologies from life and physical sciences, mathematics, computational sciences, and engineering to address major biological questions that elucidate the rules governing subcellular and cellular processes. Research supported by MCB uses a range of experimental and computational approaches--including *in vivo*, *in vitro*, and *in silico* strategies--and a broad spectrum of model and non-model organisms, including microbes and plants. Typical research supported by MCB integrates theory and experimentation. Projects are particularly welcome that address the emerging areas of: multi-scale integration; transformative methods and resources (when driven by compelling biological questions); molecular and cellular evolution; the synthesis of life-like systems; and the quantitative prediction of the phenome from genomic information. Highest funding priority is given to applications that have outstanding intellectual merit and strong broader impacts, while proposals with weaknesses in either category (or those that are perceived as likely to have an incremental impact) will not be competitive. Proposals that are motivated by relevance to human health and disease treatment are not appropriate for the Division and will be returned without review.

Awards: Standard Grant; **Anticipated Funding Amount:** \$83,000,000

Letter of Intent: Not Required

Proposal Submission Due Date: November 20, 2017

Contacts: Charles Cunningham, telephone: (703) 292-8440, email: mcb-cdf@nsf.gov

- Arcady Mushegian, telephone: (703) 292-8440, email: mcb-gm@nsf.gov
- Engin Serpersu, telephone: (703) 292-8440, email: mcb-mb@nsf.gov

Grant Program: Social, Behavioral & Economic Sciences (SBE) Postdoctoral Research Fellowships (SPRF)

Agency: National Science Foundation NSF 17-588

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17588/nsf17588.htm>

Brief Description: The Directorate for Social, Behavioral and Economic Sciences (SBE) offers Postdoctoral Research Fellowships to encourage independence early in the Fellow's career through supporting his or her research and training goals. The research and training plan of each Fellowship must address important scientific questions within the scope of the SBE Directorate and the specific guidelines in this solicitation. The SPRF program offers two tracks: (I) Fundamental Research in the SBE Sciences (SPRF-FR) and (II) Broadening Participation in the SBE Sciences (SPRF-BP). See the full text of the solicitation for a detailed description of these tracks.

Awards: 15-20 Fellowships; **Anticipated Funding Amount:** \$3,000,000

Letter of Intent: Not Required

Proposal Submission Due Date: November 01, 2017

Contacts: Josie S. Welkom - Actg Program Officer, telephone: (703) 292-7376, email: jwelkom@nsf.gov

- Lisa M. Jackson - Program Specialist, telephone: (703) 292-7882, email: lmjackso@nsf.gov

**Grant Program: Japan-US Network Opportunity 2 (JUNO2)
R&D for Trustworthy Networking for Smart and Connected Communities
Agency: National Science Foundation NSF 17-586**

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17586/nsf17586.htm>

Brief Description: The Division of Computer and Network Systems (CNS) within the National Science Foundation's (NSF) Directorate for Computer and Information Science and Engineering (CISE) supports research and education activities that develop a better understanding of the fundamental properties of computer and network systems and to create better abstractions and tools for designing, building, analyzing, and measuring future systems. The Networking Technology and Systems (NeTS) program in the CNS division supports transformative research on fundamental scientific and technological advances leading to the development of future-generation, high-performance networks and future Internet architectures.

Under this umbrella, NSF and the National Institute of Information and Communications Technology (NICT) of Japan have agreed to embark on a collaborative research program to address compelling research challenges associated with enabling trustworthy networks supporting the Internet of Things (IoT) and cyber-physical systems (CPS). This NSF solicitation parallels an equivalent NICT solicitation. Proposals submitted under this solicitation must describe joint research with counterpart Japanese investigators who are requesting funding separately under the NICT solicitation.

The IoT and CPS are becoming pervasive parts of everyday life, enabling a wide array of related emerging services and applications in cities and communities, including in health, transportation, energy/utilities, and other areas. As these systems become embedded in daily life, it is critically important that the networks underlying the services they provide be designed, built, deployed and operated in a highly trustworthy manner, i.e., that they are resilient against disasters, failures and other network disruptions. This program focuses on enabling ultra-high-availability, robust and reliable networks that can support continuity of service under duress. This requires consideration of end-to-end systems, including compute resources needed for services and applications, and creative and innovative ways of approaching the challenges outlined above. This program seeks joint Japanese-US research projects that leverage each nation's expertise and address the following work areas:

1. Trustworthy IoT/CPS Networking

Developing the foundations for a future resilient edge cloud/network system to ensure trustworthy end-to-end networks, addressing such factors as the heterogeneity, characteristics, resource constraints and potential mobility of end devices/sensors, the diversity of access network technologies, the availability/placement of computing resources and Quality of Service (QoS) requirements.

2. Trustworthy Optical Communications and Networking

Addressing the need for trustworthy, high-availability, agile optical edge/access and integrated optical/wireless networks that are resilient against disasters, large traffic surges and other major disruptions.

Awards: Standard Grants. **Anticipated Funding Amount:** \$2,250,000

Letter of Intent: Not Required

Proposal Submission Due Date: November 30, 2017

Contacts: Ann C. Von Lehmen, Program Director, CISE/CNS, telephone: (703) 292-4756, email: avonlehm@nsf.gov

- John Brassil, Program Director, CISE/CNS, telephone: (703) 292-8950, email: jbrassil@nsf.gov

Grant Program: Innovations in Graduate Education (IGE) Program

Agency: National Science Foundation NSF 17-585

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17585/nsf17585.htm>

Brief Description: The Innovations in Graduate Education (IGE) program is designed to encourage the development and implementation of bold, new, and potentially transformative approaches to STEM graduate education training. The program seeks proposals that explore ways for graduate students in research-based master's and doctoral degree programs to develop the skills, knowledge, and competencies needed to pursue a range of STEM careers.

IGE focuses on 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. The program supports testing of novel models or activities with high potential to enrich and extend the knowledge base on effective graduate education approaches.

The program addresses both workforce development, emphasizing broad participation, and institutional capacity building needs in graduate education. 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:** \$4,000,000

Limit on Number of Proposals per Organization: 2

An eligible organization may participate in two Innovations in Graduate Education 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. Proposals that exceed the institutional eligibility limit (beyond the first two submissions based on timestamp) will be returned without review regardless of the institution's role (lead, non-lead, subawardee) in the returned proposal..

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 IGE program per annual competition. Proposals that exceed the PI/Co-PI eligibility limit (beyond the first submission based on timestamp) will be returned without review regardless of the individual's role (PI or co-PI) in the returned proposal.

Internal Competition for Limited Submission: Pre-proposals in the following format (maximum 5 pages) should be submitted to respective dean's office by September August 25, 2017. Deans are requested to forward up to 2 pre-proposals with their recommendations to the Office of Research at dhawan@njit.edu by September 4, 2017. Two pre-proposals will be selected after institutional review by September 8, 2017.

Pre-proposal Format (maximum 5 pages):

8. Title and key personnel with affiliation
9. Project Summary (1-page)
10. Internal and External Collaboration
11. Intellectual Merit: Innovation in Graduate Education
12. Broader Impact
13. Performance Assessment/Project Evaluation
14. Tentative Budget Summary and Any Resources Needed

Letter of Intent: Not Required

Proposal Submission Due Date: October 25, 2017

Contacts: Laura B. Regassa, telephone: (703) 292-2343, email: lregassa@nsf.gov

- Tara L. Smith, telephone: (703) 292-7239, email: tsmith@nsf.gov
 - Stephen Mulkey, telephone: (703) 292-8954, email: smulkey@nsf.gov
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National Institutes of Health

Grant Program: BRAIN Initiative: Research on the Ethical Implications of Advancements in Neurotechnology and Brain Science (R01)

Agency: National Institutes of Health RFA-MH-18-500

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-18-500.html>

Brief Description: One of the defined themes in the BRAIN 2025 report is: “*Considers ethical implications of neuroscience research.*” Although ethical issues that are common to other areas of biomedical science also impact brain research, there are special ethical considerations unique to brain research. Considering that the brain gives rise to consciousness, our innermost thoughts, and our most basic human needs, it comes as no surprise that mechanistic studies of the brain have revealed novel social and ethical questions. With respect to research supported by the BRAIN Initiative, it is clear there are additional ethical issues in areas such as brain imaging and modulation, data privacy, informed consent, and a host of additional opportunities that warrant focused attention. These critical issues should be considered through thoughtful discussion and empirical research. Specifically, the BRAIN 2025 report describes the importance of “Support for data-driven research to inform ethical issues arising from BRAIN Initiative research, ideally with integrated activities between ethicists and neuroscientists.” In addition, feedback solicited through a recent [BRAIN Neuroethics Request for Information](#) underscores that the broader public and scientists alike endorse that scientific advances and technology development are well-served by thoughtful consideration of potential ethical issues.

This FOA seeks to provide opportunities to directly consider the integration of ethical issues with BRAIN-supported scientific advances. Specifically, this FOA seeks to support efforts addressing core ethical issues associated with research focused on the human brain and resulting from emerging technologies and advancements in research and development supported by the BRAIN Initiative. The hope is that efforts supported under this initiative might be both complimentary and integrative with the transformative, breakthrough neuroscience discoveries supported through the BRAIN Initiative.

Awards: Application budgets are limited to \$300,000 in direct costs in any project year, and need to reflect the actual needs of the proposed project.

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

Deadline: December 7, 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 the Funding Opportunity Announcement.

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

Grant Program: CREATE Bio Optimization Track for Biologics (SBIR-U44) (U01)

U01 Research Project – Cooperative Agreements

PAR-14-288, UG3/UH3 Exploratory/Developmental Phased Award Cooperative Agreement

Agency: National Institutes of Health PAR-17-457

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-457.html>

Brief Description: This Funding Opportunity Announcement (FOA) is part of a suite of complementary programs to encourage the translation of research discoveries into new treatments for disorders that fall under the NINDS mission.

The NINDS Cooperative Research to Enable and Advance Translational Enterprises for Biologics (CREATE Bio) program is dedicated to biotechnology product- and biologics-based therapies, which broadly include modalities such as peptides, proteins, oligonucleotides, gene therapies, cell therapies and novel emerging modalities. The program includes two tracks: the Optimization Track supports optimization in order to obtain a candidate appropriate for entering the Development Track, and the Development Track supports IND-enabling studies for the candidate. For entry into the Optimization Track, projects must have strong scientific rationale and demonstrate relevant, convincing in vivo data of one or more agent(s) that are sufficiently profiled so that the parameters to be optimized can be quantitatively specified (see entry criteria for details) in the application. At the end of the funding period, a candidate should be identified that has sufficient bioactivity, stability, manufacturability, bioavailability, in vivo efficacy and/or target engagement (measurement of target binding or proximal downstream effects) with defined minimal and optimal doses, and other favorable properties consistent with the desired clinical application (see Scope below for details).

Projects are funded through the SBIR U44 cooperative agreement award mechanism, which involves NINDS Scientific/Research staff's participation in developing the project plan, monitoring research progress, and establishing appropriate milestones. NINDS staff will also provide assistance to academic investigators in guiding them with the therapeutic development process and the criteria needed to advance therapeutic leads to the clinic.

For more information about earlier stage translational funding opportunities and programs, visit the [NINDS Division of Translational Research](#) website and, for more information specifically about the [CREATE Bio Program](#), visit the website. Applicants are strongly advised to read through the [CREATE Program FAQs](#).

Awards: Application budgets are not limited but must reflect the actual needs of the proposed project. Budgets for these projects will normally remain under \$700,000 total cost (direct costs, indirect costs, fee) per year in Phase I and \$4,000,000 total cost for Phase II (no more than \$1,500,000 in total costs per year in Phase II). Budget costs will likely fluctuate over the funding period based on the stage of the project.

Letter of Intent: Not Required

Deadline: February 13, 2018; July 18, 2018; February 13, 2019; July 18, 2019; February 13, 2020; and July 20, 2020, 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: Point-of-Care Technologies Research Network Centers (U54)

Agency: National Institutes of Health PAR-17-453

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-453.html>

Brief Description: The network of POCTRN Research Centers will have broad expertise across many research areas and will cover multiple levels of technology readiness from proof of feasibility through products and procedures used in clinical practice (*See individual NIH Institute/Center Areas of Interest*). The scope of work covered within each Center will include 1) assessment and communication of unmet clinical needs in point-of-care testing; 2) collaborations with physical scientists, computational scientists, and engineers (as well as researchers from other relevant disciplines, as appropriate) on technology development projects;

3) development of external partnerships (e.g., technology, clinical, industry, and regulatory) necessary to move enabling technologies toward clinical applications; 4) clinical testing of prototype point-of-care devices and 5) creation of training opportunities for technology developers and other stakeholders on clinical issues related to the development of point-of-care devices. The POCTRN Research Centers provide support to point-of-care stakeholders through sub-awards and other resources (e.g. consultations, database tools, training modules, connections with clinical collaborators and providing de-identified clinical specimens for testing POC devices). A key component of the POCTRN Research Centers includes the ability to provide sub-award support for point-of-care projects that have significant potential to address clinical needs in point-of-care testing and for ultimate commercialization. It is expected that the POCTRN Research Center leadership will establish a review process, manage a solicitation and selection process for projects and the distribution of sub-award funds for point-of-care projects according to Center focus and milestones, budget period, availability of meritorious projects and the overall goal of transitioning functional prototypes out of the Center toward later- stage clinical testing and commercialization. Proposed technology development projects submitted in this application will be initiated at the onset of the grant award. The selection of future sub-award projects for funding beyond those presented in the initial grant application, will be made in consultation with the Scientific Officers and approved by the NIH Program Officer. The details of the full governance structure are provided in Section VI.2, “Cooperative Agreement Terms and Conditions of Award”. Although Center institutions may receive funding for collaborative sub-award projects, it is expected that the majority of funds will be used to fund sub-award projects outside of the U54 awardee institution.

Organizational Structure

The structure of a POCTRN Research Center will consist of in-house scientific and point-of-care technological expertise and the clinical partnerships necessary to facilitate the identification and integration of enabling technologies into devices that address defined clinical needs. Each POCTRN Research Center will be comprised of four Core Components: (1) Administrative (*Admin Core*); (2) Technology Development/Refinement (*Technology Dev Core*); (3) Clinical Translation and Validation (*Clinical Trans Valid*) and (4) Technology Training and Dissemination (*Technology Train Dis*).

1) Admin Core

The appropriate leadership and structure to manage the many facets of these large and complex Centers will be a key component in establishing a successful Center. The Admin Core serves as the managing component of the Center that is charged with effectively leading the organization, governance, collaboration within the Network, communication with stakeholders, as well as evaluation and continuous improvement in quality and efficiency of the Research Center by establishing an External Advisory Board (EAB). The EAB is appointed by the Center Program Director/Principal Investigator (PD/PI) and advises the PD/PI on future directions of the Center. The Center’s Scientific Subcommittee of the Network Steering Committee will also provide scientific and administrative oversight of Center functions, including the review and selection of projects to receive sub-award funding.

2) Technology Dev Core

The Technology Dev Core identifies, evaluates and supports point-of-care technology development/refinement in-house and external to the Center. Support can be in the form of sub-awards, tools and/or other resources. It is expected that the project period for sub-awarded projects will be 6 months up to two years to allow for several technologies to be tested and moved into the next stage of clinical testing during the five-year grant period. Exceptions to this are possible if justification is provided for an extended project period. Therefore, adequate funds

should be budgeted in later years of the grant period to allow for transitioning or retiring current projects and recruiting and selecting new technology development/refinement projects. The first round of sub-awards are to be made in Year one of the grant period. Although there is flexibility in the support amount and time periods of the sub-awards, 6 month awards at \$50,000 or 1 year at \$100,000 is suggested. The number of awards would depend on meritorious applications and the Center's goals and budget.

3) Clinical Trans Valid Core

Clinical validation, adoption, and feasibility testing are necessary to ensure that the prototypes supported under this program will have a reasonable rate of success for public uptake.

POCTRN Research Centers are expected to validate the prototypes, and undertake rigorous feasibility and adoption testing for the point-of-care devices in both clinical and “real-world” settings. Examples of intended-use settings include, but are not limited to, the integration of the point-of-care-technologies into clinical workflow (private offices and academic practices), within low-resource settings and among the intended users and/or caregivers. An important characteristic of funded Research Centers is therefore the ability to collaborate effectively with entities that possess the resources and expertise to commercialize the prototype devices developed through Research Center activities. Support for clinical translation can also be in the form of sub-awards, tools and/or other resources.

4) Technology Train Dis Core

The Technology Train Dis Core provides training activities for point-of-care technology stakeholders such as scientists, engineers, clinicians and other medical professionals, patients, policy makers and investors. Within the Technology Train Dis Core, the Research Centers will also conduct assessments of clinical and user needs to inform device design and further define and disseminate publicly available clinical needs information.

Awards: Application budgets are not limited but it is strongly recommended that applicants not request a budget of more than \$1.2M in direct costs per year. Facilities and administrative costs requested by consortium participants are not included in the direct cost limitation.

Letter of Intent: 6 weeks prior to the application due date

Deadline: October 27, 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.

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: NIBIB Exploratory/Developmental Research Grant Program (R21)

Agency: National Institutes of Health PAR-17-441

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-441.html>

Brief Description: Cutting-edge research in the biomedical, behavioral, clinical sciences and technologies requires new ideas, techniques, and points of view. Such ideas may differ substantially from current thinking or practice. The NIBIB seeks to foster these new scientific bioengineering and imaging ideas, model systems, tools, agents, targets, and technologies through the Exploratory/Developmental Research Grant Program. More detail on our program areas can be found at <https://www.nibib.nih.gov/research-funding>.

This program is specifically intended to encourage exploratory or developmental projects. These studies may involve considerable risk, but are expected to lead to breakthroughs in novel techniques, agents, methodologies, models, or their applications that could have a major impact on human-health and related research.

These R21 applications must not include preliminary data that demonstrate the feasibility of the specific aims. *Applications including preliminary data will be considered noncompliant with the FOA instructions and will not go forward to review.* Availability of preliminary data demonstrating feasibility of the proposed approach is an indication that the proposed project has advanced beyond the exploratory stage defined by this program, and makes the application unsuitable for this funding opportunity. Appropriate justification for the proposed work can be provided through literature citations and data from other sources.

Exploratory/Developmental Research Grant applications should be exploratory and novel, distinct from those supported through the traditional R01 activity code. For example, long-term projects, or projects designed to increase knowledge in a well-established area, are not appropriate for this FOA. Studies submitted to this FOA should break new ground or take previous discoveries in new directions.

Applications for R21 awards should propose projects distinct from those supported through the traditional R01 mechanism, which are generally longer-term systematic investigations supported by extensive preliminary data. R21 applications should have well-defined goals with the potential for future development. It is expected that successful projects would go on to further development under other funding mechanisms, such as the R01. Not all research endeavors will be suitable for this FOA. Projects from Investigators that are supported by preliminary data should be submitted to the Parent R01 FOA (<https://grants.nih.gov/grants/guide/pa-files/PA-16-160.html>) or the Bioengineering Research Grant FOA (<https://grants.nih.gov/grants/guide/pa-files/PAR-16-242.html>).

Awards: Application budgets may not exceed \$275,000 direct costs over a maximum two-year funding period. No more than \$200,000 in direct costs may be requested in any single year.

Letter of Intent: Not Required

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

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

Department of Defense/US Army/DARPA/ONR

Grant Program: Breast Cancer Research Program Innovator Award

Agency: Department of Defense Congressionally Directed Medical Research Programs

W81XWH-17-BCRP-INNOV2

Website: <http://cdmrp.army.mil/funding/pa/FY17-BCRP-IA.pdf>

Brief Description: The BCRP has prepared a brief overview, The Breast Cancer Landscape, that describes what is currently known about the most pertinent topics that are consistent with the BCRP's vision of ending breast cancer. Applicants are strongly urged to read and consider The Breast Cancer Landscape before preparing their applications. The Landscape may be found at http://cdmrp.army.mil/bcrp/pdfs/bc_landscape.pdf

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: Standard Grants

Proposal Deadline:

Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), September 29, 2017

Invitation to Submit an Application: November 1, 2017

Application Submission Deadline: 11:59 p.m. ET, December 21, 2017

Confidential Letters of Recommendation Submission Deadline: 5:00 p.m. ET, December 27, 2017

Contact Information: CDMRP Help Desk: 301-682-5507 Email: help@eBRAP.org

Grant Program: DoD, Peer Reviewed Alzheimer's Research

Agency: Department of Defense

W81XWH-17-PRARP-RPA	DoD Peer Reviewed Alzheimer's, Research Partnership Award
W81XH-17-PRARP-CSRA	DoD, Peer Reviewed Alzheimer's
W81XWH-17-PRARP-QUAL	DoD Peer Reviewed Alzheimer's, Quality of Life Research Award
W81XWH-17-PRARP-NIRA	DoD Peer Reviewed Alzheimer's, New Investigator Research Award

Website: <http://cdmrp.army.mil/prarp/default>

Brief Description: Several Research Topics in Basic Research: The FY17 Defense Appropriations Act provides \$15 million (M) to the Department of Defense Peer Reviewed Alzheimer's Research Program (PRARP) to support research which addresses the long-term consequences of traumatic brain injury (TBI) as they pertain to Alzheimer's disease (AD) and related dementias (ADRD). The

research impact will benefit the military, Veteran, and civilian communities. The PRARP's mission is devoted to (1) understanding the association between traumatic brain injury (TBI) and Alzheimer's disease (AD)/Alzheimer's disease-related dementias (ADRD) and (2) reducing the burden on affected individuals and caregivers, especially in the military and Veteran communities. Consistent with the PRARP's mission and vision, the program faces 6 overarching challenges for FY17. These overarching challenges represent longstanding research goals for the program:

- **Paucity of Research Resources:** The paucity of research resources to examine the interrelationship between TBI and subsequent AD/ADRD for the military, Veteran, and civilian communities.
- **Paucity of Clinical Studies:** The paucity of clinical studies to examine the interrelationship between TBI and subsequent AD/ADRD for the military, Veteran, and civilian communities. This includes research into risk factors which may predispose individuals to AD/ADRD subsequent to TBI.
- **Diagnostic Technologies, Tests, Biomarkers, or Devices:** The need for technologies, tests, or devices to detect or prognose the progression to AD/ADRD subsequent to TBI. This includes research into risk factors which may predispose individuals to AD/ADRD subsequent to TBI.
- **Quality of Life:** The need for technologies, assessments, interventions, or devices to benefit individuals living with the common symptoms or deficits of TBI and AD/ADRD.
- **Caregiver Burden:** The need for technologies, assessments, interventions, or devices with the goal of reducing burden for caregivers of individuals living with the common symptoms or deficits of TBI and AD/ADRD.
- **Epidemiology:** The paucity of epidemiological research to examine the interrelationship between TBI and subsequent AD/ADRD for the military, Veteran, and civilian communities. This includes research into risk factors which may predispose individuals to AD/ADRD subsequent to TBI.

Awards: Standard Grants

Proposal Deadline: September 20, 2017; May need earlier submission of white paper.

Contact Information: CDMRP Help Desk: 301-682-5507 Email: help@eBRAP.org

Department of Energy

Grant Program: Fossil Fuel Large-Scale Pilots

Agency: Department of Energy DE-FOA-0001788

Website:

https://www.fedconnect.net/FedConnect/PublicPages/PublicSearch/Public_Opportunities.aspx

Brief Description: This FOA seeks applications for projects to design, construct, and operate large-scale pilots of transformational coal technologies aimed at enabling step change improvements in coal powered system performance, efficiency, and cost of electricity. The FOA will be carried out in three phases, with a down-select between phases. Phase I, Feasibility, will be aimed at supporting recipients' efforts to secure team commitments, including host sites and recipient cost share for Phase II, update the preliminary cost estimate and schedule for design, construction, and operation, and complete an environmental information volume. Projects selected for Phase II, Design, will complete a Front End Engineering Design study, secure construction-operation cost share funding, and complete the National Environmental Policy Act process. Finally, at least two projects will be selected for Phase III, Construction-Operation, which

will support construction and operation of the large-scale pilot facilities. Any recipients proceeding to Phase III will be required to utilize domestic coal and/or domestic coal-derived fuels in the operation period. Applicants to Phase I who plan to primarily use other fuel sources during operations will be judged non-responsive. While only detailed Phase I applications are being solicited at this time, information relating to preliminary plans to carry out Phases II and III will be required to assess the potential viability of the overall project.

Award: EERE expects to make approximately \$2,500,000 of Federal funding available for new awards under this FOA, subject to the availability of appropriated funds. EERE anticipates making approximately 1-2 awards under this FOA. EERE may issue one, multiple, or no awards. Individual awards may vary between \$1,250,000 and \$2,500,000.

Proposal Deadline: October 19, 2017

Contact Information: Raelynn Honkus Raelynn.Honkus@netl.doe.gov

NASA

Grant Program: ROSES 2017: Discovery Data Analysis

Agency: NASA NNH17ZDA001N-DDAP

Website:

<https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7B410D2803-9FFE-F7D0-2CDA-6AABC9664AF5%7D&path=open&method=init>

Brief Description: The objective of the Discovery Data Analysis Program (DDAP) is to enhance the scientific return of Discovery Program missions and broaden the scientific participation in the analysis of data, both recent and archived, collected by Discovery missions.

Sources and Analysis of Mission Data: Spacecraft data used in DDAP investigations must be available in the Planetary Data System (PDS; <http://pds.nasa.gov/>), or equivalent publicly accessible archive(s), at least 30 days prior to the Step-2 submission deadline for DDAP proposals. Spacecraft data that have not been placed in such archives are not eligible for use in DDAP investigations. In all cases, it is the responsibility of the DDAP investigator to acquire any necessary data. Investigators are encouraged to contact the archive for assistance in identifying specifics of available datasets. Datasets to be used in the proposed work must be clearly and specifically identified in the proposal. Regardless of the archive(s) used, if the data to be analyzed have known issues that might represent an obstacle to analysis, the proposers must demonstrate clearly and satisfactorily how such potential difficulties will be overcome.

Awards: Up to 4-years award

Proposal Deadline: DDAP17 Step-1 Proposal: September 07, 2017

Contact: Thomas S. Statler Planetary Science Division Science Mission Directorate NASA Headquarters Washington, DC 20546-0001 Email: thomas.s.statler@nasa.gov Telephone: 202-358-0272

Grant Program: ROSES 2017: Rosetta Data Analysis

Agency: NASA NNH17ZDA001N-RDAP

Website:

<https://nspires.nasaprs.com/external/viewrepositorydocument/cmdocumentid=553869/solicitationId=%7BD8115F8F-DEFA-99CB-067C-742F41316A08%7D/viewSolicitationDocument=1/C.20%20RDAP.pdf>

Brief Description: The objective of the Rosetta Data Analysis Program (RDAP) is to enhance the scientific return of the Rosetta mission and broaden the scientific participation in the analysis of archived data collected from the Rosetta and Philae spacecraft.

Sources and Analysis of Mission Data: Spacecraft data used in RDAP investigations must be available in the Planetary Data System (PDS; <http://pds.nasa.gov/>), or equivalent publicly accessible archive(s), at least 30 days prior to the Step-2 submission deadline for RDAP proposals. Spacecraft data that have not been placed in such archives are not eligible for use in RDAP investigations. In all cases, it is the responsibility of the RDAP investigator to acquire any necessary data. Investigators are encouraged to contact the archive for assistance in identifying specifics of available datasets. Datasets to be used in the proposed work must be clearly and specifically identified in the proposal. Regardless of the archive(s) used, if the data to be analyzed have known issues that might represent an obstacle to analysis, the proposers must demonstrate clearly and satisfactorily how such potential difficulties will be overcome. Proposals to RDAP must include a science investigation. Proposals to produce a higher order data product that enhances the science return from Rosetta, but does not include a science investigation, should be submitted to the Planetary Data Archiving, Restoration, and Tools (PDART) Program (program element C.7). Proposed work responsive to this call may include (1) data analysis tasks, (2) tasks that are not data analysis but are necessary to analyze or interpret the data, and (3) tasks that are not data analysis but that significantly enhance the use or facilitate the interpretation of Rosetta data. These tasks may incorporate theory, modeling, laboratory studies, correlative analyses, and/or other research; however, proposals that include tasks that are not data analysis must also incorporate the results of these tasks into the analysis or interpretation of Rosetta mission data in order to be responsive to this call.

Awards: Up to 4-years award

Proposal Deadline: RDAP17 Step-1 Proposal: September 07, 2017

Contact: Thomas S. Statler Planetary Science Division Science Mission Directorate NASA Headquarters Washington, DC 20546-0001 Email: thomas.s.statler@nasa.gov Telephone: 202-358-0272

National Endowment of Humanities

Grant Program: Summer Awards

Agency: National Endowment of Humanities

Website: <https://www.neh.gov/grants/research/summer-stipends>

Brief Description: Summer Stipends support individuals pursuing advanced research that is of value to humanities scholars, general audiences, or both. Eligible projects usually result in articles, monographs, books, digital materials and publications, archaeological site reports, translations, or editions. Projects must not result solely in the collection of data; instead they must also incorporate analysis and interpretation.

Summer Stipends support continuous full-time work on a humanities project for a period of two consecutive months. Summer Stipends support projects at any stage of development.

Awards: \$6,000 stipend.

Proposal Deadline: **September 27, 2017** for Projects Beginning May 2018

Contact: Contact NEH's Division of Research Programs at 202-606-8200 or stipends@neh.gov.

Phrma Foundation

Grant Program: Phrma Foundation Awards and Fellowships

Agency: Phrma Foundation

Website: <http://www.phrmafoundation.org/2018-awards/>

Brief Description: **Research Starter Grants \$100K per year**

- [Health Outcomes](#)
- [Informatics](#)
- [Pharmaceutics](#)
- [Pharmacology / Toxicology](#)
- [Translational Medicine and Therapeutics](#)

Pre Doctoral Fellowships \$20K - \$25K per year

- [Health Outcomes](#)
- [Informatics](#)
- [Pharmaceutics](#)
- [Pharmacology / Toxicology](#)

Sabbatical Fellowships \$40K

- [Health Outcomes](#)
- [Informatics](#)
- [Pharmaceutics](#)
- [Pharmacology / Toxicology](#)

Post Doctoral Fellowships \$27K - \$60K per year

- [Health Outcomes](#)
- [Informatics](#)
- [Pharmaceutics](#)
- [Pharmacology / Toxicology](#)
- [Translational Medicine and Therapeutics](#)

Application Process: Online <https://grant.grantstream.ca/frames/PhRMA/index.php>

Proposal Deadline: Research Starter Grants of \$100,000 in pharmaceutics and informatics: September 1, 2017

Contact: For more information, please also contact Eric Blitz, Associate Director for Development Corporate and Foundation Relations, eric.blitz@njit.edu

Simon Foundation

Grant Program: Simons Grants for Sabbaticals in Math and Theoretical Physics

Agency: Simon Foundation

Website: <https://www.simonsfoundation.org/funding/funding-opportunities/mathematics-physical-sciences/simons-fellow-program/>

Brief Description: *Grants awarded will be restricted to sabbatical-eligible faculty who wish to use the grant for the purpose of extending a single term sabbatical leave to a full academic year.*

Proposal Deadline: September 28, 2017

Contact: For more information, please also contact Eric Blitz, Associate Director for Development Corporate and Foundation Relations, eric.blitz@njit.edu

Streamlyne Update

513 proposals were submitted in FY17. Since January 17, 307 proposals were submitted through streamline. In the last quarter (April-July), 34 proposals were submitted through the System-to-System (S2S) Streamlyne-Grants.gov module. 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
