

# NJIT Research Newsletter

Issue: ORN-2016-026

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

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(Related to research funding)

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## Recent Research Grant and Contract Awards

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

**PI:** Ken Chin (PI)

**Department:** Physics

**Grant/Contract Project Title:** PV Materials Technology Development

**Funding Agency:** CTIEC

**Duration:** 04/01/16-03/31/18

**PI:** Andrew Gerrard (PI)

**Department:** Center for Solar Terrestrial Research

**Grant/Contract Project Title:** Scientific Studies from a Network of Sustainable, Robotic Observatories Across the Antarctic Ice-shelf: A New Approach to Polar Research

**Funding Agency:** NSF

**Duration:** 09/15/15-08/31/20

**PI:** Dale Gary (PI)

**Department:** Center for Solar Terrestrial Research

**Grant/Contract Project Title:** EOVS Operations in Support of NASA Solar and Heliospheric Missions - HIDEE - On-Site

**Funding Agency:** NASA

**Duration:** 06/18/14-06/17/17

**PI:** Dale Gary (PI)  
**Department:** Center for Solar Terrestrial Research  
**Grant/Contract Project Title:** EOVS Operations in Support of NASA Solar and Heliospheric Missions - HIDEE - Off-Site  
**Funding Agency:** NASA  
**Duration:** 06/18/14-06/17/17

**PI:** Haimin Wang (PI) and Na Deng (Co-PI)  
**Department:** Center for Solar Terrestrial Research  
**Grant/Contract Project Title:** High Resolution Observations of Evolution of Magnetic Fields and Flows Associated with Solar Eruptions  
**Funding Agency:** NSF  
**Duration:** 09/01/14-08/13/17

**PI:** James Lipuma (PI)  
**Department:** Humanities  
**Grant/Contract Project Title:** FRS NJ Seed Grant  
**Funding Agency:** NJDOE  
**Duration:** 07/06/16-06/30/17

**PI:** Zoi-Heleni Michalopoulou (PI)  
**Department:** Mathematical Sciences  
**Grant/Contract Project Title:** Shallow water inversion with optimization and direct methods  
**Funding Agency:** ONR  
**Duration:** 04/01/16-09/30/16

**PI:** Edward Dreizin (PI)  
**Department:** Chemical, Biological and Pharmaceutical Engineering  
**Grant/Contract Project Title:** Combustion of reactive materials in gas flows with turbulent mixing  
**Funding Agency:** DTRA  
**Duration:** 05/01/14-04/30/17

**PI:** Namas Chandra (PI)  
**Department:** Center for Injury, Biomechanics, Material and Medicine  
**Grant/Contract Project Title:** Fundamental Understanding of the Mechanism of Cavitation, One of Possible Mechanisms of Blast-Induced Traumatic Brain Injury using Surrogate Models  
**Funding Agency:** ONR  
**Duration:** 06/01/15-05/31/18

**PI:** Wei Zhi (PI)  
**Department:** Computer Science  
**Grant/Contract Project Title:** Targeting stem cell-associated molecules for melanoma  
**Funding Agency:** NIH  
**Duration:** 05/15/14-04/30/17

**PI:** Edward Dreizin (PI)  
**Department:** Chemical, Biological and Pharmaceutical Engineering

**Grant/Contract Project Title:** Reactive Nanocomposite Materials for Enhanced Lethality Kinetic Warheads  
**Funding Agency:** RMI  
**Duration:** 06/21/16-12/21/16

**PI:** James Lipuma (PI)  
**Department:** Humanities  
**Grant/Contract Project Title:** GEIAA / Elizabeth Thomas Part II  
**Funding Agency:** NJDOE  
**Duration:** 07/01/16-12/31/16

## NJII

**PI:** Donald Sebastian (PI)  
**Department:** NJII  
**Grant/Contract Project Title:** PV Materials Technology Development  
**Funding Agency:** CTIEC  
**Duration:** 04/01/16-03/31/18

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## In the News...

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

**White House Initiative on Precision Medicine:** A key feature of the Precision Medicine Initiative announced by the President in January 2015, is the establishment of cohort of up to one million volunteers participating in a longitudinal research effort to amass data on genetics, environmental factors, and lifestyle. Now the Administration has announced an investment of \$55 million to build partnerships with health care providers including regional medical centers, community health centers and the Veterans Administration. Regional centers include Columbia University, Northwestern University, the University of Arizona, and the University of Pittsburgh. The community health centers are expected to assist in recruitment efforts for the research cohort. Associated with this, the NIH has also announced awards for a data and research support center, and a participant technologies center, both of which involve university-private sector partnerships. Also included is a Food and Drug Administration initiative to streamline its oversight of genomic tests while continuing to ensure safety and effectiveness. Details are available at <https://www.nih.gov/precision-medicine-initiative-cohort-program>

**Congress:** In an effort to advance as many appropriations bills as possible before October 1, the House Appropriations Committee released the [Labor, HHS, Education bill](#) and moved it through Subcommittee. It provides \$33.3 billion for the NIH, \$1.25 billion above the fiscal year 2016 enacted level and \$2.25 billion above the President's discretionary budget request. Similar to the Senate counterpart, it provides targeted funding for specific medical research programs such as Alzheimer's disease, Precision Medicine, and the BRAIN initiative, but does not explicitly acknowledge the Cancer Moonshot. However, each NIH research unit, including the National Cancer Institute, would receive general increases under the bill. Unlike the Senate counterpart,

the House bill does not restore year-around Pell Grants. This action marks the 12<sup>th</sup> and final appropriations bill to move through the House Appropriations Committee. In the limited time remaining, Congress will face the task of passing these individual bills, developing a single omnibus piece of legislation, or passing a continuing resolution of up to six months to keep the Government operating until the next administration.

Read More: <https://www.statnews.com/2016/07/06/house-panel-endorses-nih-spending-plan/>

**NASA:** The [Explorers Program](#) is the longest continuous scientific flight program in NASA. Comments have now been invited on a [draft solicitation](#) for the next Astrophysics Medium Explorer Mission (MIDEX). Astrophysics MIDEX missions are intended to provide principal investigator led flight opportunities in moderate cost range which can be accomplished in a three year time frame. The cost cap for a MIDEX mission is \$250 M in FY 2017 dollars, not including the cost of the Expendable Launch Vehicle (ELV). More on <https://espd-explorers.ndc.nasa.gov>

**Next-Generation Wireless:** The Obama administration announced an Advanced Wireless Research Initiative with spectrum policies and research that it says will, collectively, "accelerate the deployment of a new generation of wireless networks that are up to 100 times faster than today." Advances could include emergency rooms getting real-time video and sensor data from ambulances before the patient arrives; five-second movie downloads; and factory equipment that heals its own flaws. See the White House [fact sheet](#), and a related National Science Foundation [announcement](#). Also: [NSF/Intel Partnership on Information-Centric Networking: Wireless Innovation between Finland and US](#); and [Platforms for Advanced Wireless Research](#).

**National Science Foundation: Calling I-Corps Grads:** An NSF Engineering Directorate [solicitation](#) "is designed to support innovative ideas and partnerships in the translation of NSF-funded fundamental science and engineering discoveries, or fundamental science and engineering discoveries that have been vetted through the Customer Discovery process of the National I-Corps (Innovation Corps) program, toward market-valued solutions." Besides putting research discoveries on a path toward commercial reality, it aims for "engagement of faculty and students in entrepreneurial/innovative thinking." More on [http://www.nsf.gov/pubs/2016/nsf16583/nsf16583.htm?WT.mc\\_id=USNSF\\_25&WT.mc\\_ev=click](http://www.nsf.gov/pubs/2016/nsf16583/nsf16583.htm?WT.mc_id=USNSF_25&WT.mc_ev=click)

**Stem And Global Challenges:** NSF's Education and Human Resources directorate seeks R&D proposals that advance STEM learning while "exploring solutions to multidisciplinary or transdisciplinary global challenges in either formal or informal settings for learners of all ages and prior educational experience, including learners traditionally under-represented in STEM." Examples: ". . . increasing the availability of fresh vegetables or potable water locally or internationally; creation of a network of course-based research experiences to inform STEM policy work; (and) novel use of social media and flash mob strategies to initiate community Change Maker teams." More on [http://www.nsf.gov/pubs/2016/nsf16109/nsf16109.jsp?WT.mc\\_id=USNSF\\_25&WT.mc\\_ev=click](http://www.nsf.gov/pubs/2016/nsf16109/nsf16109.jsp?WT.mc_id=USNSF_25&WT.mc_ev=click)

## **Special Announcement on New Format of NIH Biographical Sketch**

The revised NIH proposal/application forms and instructions are now available on the [SF 424 \(R&R\) Forms and Applications page](#) and adjustments have been made to improve their usability. Individual fellowships, R36 dissertation grants, and diversity supplements should use the [Fellowship Application Biographical Sketch Format Page and related pre-doc and post-doc instructions and samples](#), while research grant applications, career development, training grant, and **all other application types** should use the general [Biographical Sketch Format Page and instructions and sample](#).

The new format extends the page limit for the biosketch from four to five pages, and allows researchers to describe up to five of their most significant contributions to science, along with the historical background that framed their research. Investigators can outline the central findings of prior work and the influence of those findings on the investigator's field. Investigators involved in Team Science are provided the opportunity to describe their specific role(s) in the work. Each description can be accompanied by a listing of up to four relevant peer-reviewed publications or other non-publication research products, including audio or video products; patents; data and research materials; databases; educational aids or curricula; instruments or equipment; models; protocols; and software or netware that are relevant to the described contribution. In addition to the descriptions of specific contributions and documentation, researchers will be allowed to include a link to a full list of their published work as found in a publicly available digital database such as [MyBibliography](#) or [SciENcv](#).

### **Tool to Help Build the New Biosketch**

The Science Experts Network Curriculum Vitae ([SciENcv](#)), which serves as an interagency system designed to create biosketches for multiple federal agencies, will be updated by the end of December to support the new biosketch format and to address some issues found in testing. SciENcv pulls information from available resources making it easy to develop a repository of information that can be readily updated and modified to prepare future biosketches. A [YouTube video](#) provides instructions for using SciENcv website <http://www.ncbi.nlm.nih.gov/sciencv/>. See [FAQs](#) for additional information. See more information on <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-15-032.html>

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## **Events and Announcements**

### **Event: Webinar on the DHS FY 2016 CVE Grant Program**

**When:** Wed., July 20, 2016 – 2 to 3 p.m. (EST) Mon., July 25, 2016 – 2 to 3 p.m.

**Presented By:** The DHS Office for Community Partnerships and FEMA Grant Program Directorate

**Website: Via Adobe Connect Web Link for July 20 webinar:**

<https://icpd.adobeconnect.com/grantsiga1/event/registration.html>

The link will prompt you to register. Register by completing the following fields and clicking “submit.”

- Email Address
- First Name
- Last Name
- Password

**Web Link for July 25 webinar:**

<https://icpd.adobeconnect.com/grantsiga21/event/registration.html> The link will prompt you to register. Register by completing the following fields and clicking “submit”

- Email Address
- First Name
- Last Name
- Password

**Brief Description:** The Federal Emergency Management Agency (FEMA) invites you to an upcoming webinar on the Department of Homeland Security (DHS) FY 2016 Countering Violent Extremism (CVE) Grant Program. Last year, Secretary Johnson and the DHS Office for Community Partnerships identified the need to make direct awards to non-governmental organizations for community-based countering violent extremism programs. Congress has also been supportive of this effort by appropriating \$10 million specifically to support local CVE efforts. On July 6, 2016, DHS announced the FY 2016 CVE Grant Program. For the first time, non-governmental organizations will be eligible for DHS funding to promote community resilience against the threat of violent extremism. A series of webinars have been scheduled to assist non-governmental organizations and institutions of higher education to understand the grant program’s goals, core elements, review process, and timeline and have an opportunity to ask questions about the information presented. For your convenience, we are offering the same webinar on two different dates.

**Event: NSF Webcast: Cryptocurrencies: the ideas behind the hype**

**When:** July 21, 2016 12.00 PM-1.00 PM

**Website:** [http://www.nsf.gov/events/event\\_summ.jsp?cntn\\_id=139125&org=NSF](http://www.nsf.gov/events/event_summ.jsp?cntn_id=139125&org=NSF)

**Brief Description:** Cryptocurrencies such as Bitcoin and Ethereum have been polarizing. Supporters claim that they will fundamentally alter payments, economics, and even politics around the world. Skeptics claim that they are inherently broken and will suffer an inevitable and spectacular collapse. In this talk I will present the key technical ideas behind the new generation of cryptocurrencies --- ideas that are novel, deep, and interesting, and span many subfields of computer science, including security, cryptography, distributed systems, game theory, and programming languages. Yet much remains unknown, and I will lay out the key research challenges.

**PRESENTER:** Arvind Narayanan is an Assistant Professor of Computer Science at Princeton. He leads a research team investigating the security, anonymity, and stability of cryptocurrencies as well as novel applications of block chains. He co-created an online course and textbook on Bitcoin and cryptocurrency technologies. He also leads the Princeton Web Transparency and Accountability Project to uncover how companies collect and use our personal information. His doctoral research showed the fundamental limits of anonymization, for which he received the Privacy Enhancing Technologies Award.

**To Join the Webinar, please register at:** <http://www.tvworldwide.com/events/nsf/160721/>

**Event: NSF Webinar: NeuroNex Webinar**

**When:** July 19, 2016 1.00 PM-3.00 PM

**Website:**

[http://www.nsf.gov/events/event\\_summ.jsp?cntn\\_id=139072&WT.mc\\_id=USNSF\\_13&WT.mc\\_e v=click](http://www.nsf.gov/events/event_summ.jsp?cntn_id=139072&WT.mc_id=USNSF_13&WT.mc_e v=click)

**Brief Description:** *The NeuroNex Webinar will discuss the scope of the activity described below, pertinent review criteria, general guidelines for proposals to this activity, and post-award conditions for the cooperative agreements.* National Science Foundation recently announced its

intention to foster the development of a national research infrastructure for neuroscience (NSF 16-047) to support collaborative and team science for achieving a comprehensive understanding of the brain. As part of this effort, NSF recently released a solicitation, NSF 16-569, which calls for two types of proposals:

- 1.) Neurotechnology Hubs: Projects that foster development and dissemination/deployment of innovative research resources and instrumentation, neurotechnologies and behavioral paradigms that can be applied across the phylogenetic spectrum, while providing greater access to existing resources where possible and serving broad communities within the brain sciences; and
- 2.) Theory Teams: Projects that foster theoretical approaches with the potential to reveal the neural underpinnings of behavior and cognition across organizational levels, scales of analysis, and/or a range of species.

For further details, please consult the [program summary page](#) and solicitation ([NSF 16-569](#)).

### **NeuroNex Webinar**

Tuesday, July 19th 2016

1:00pm eastern time | 2 hrs

When it's time, [join the meeting](#).

Meeting number: 746 147 790

Meeting password: JznuAn\*7

Join by Phone:

Toll Free Number: 1-888-391-0588

Participant Passcode: 1234

### **Contacts**

Ashley L. Hobbs, (703) 292-4972, [ahobbs@nsf.gov](mailto:ahobbs@nsf.gov)

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Sridhar Raghavachari, (703) 292-4845, [sraghava@nsf.gov](mailto:sraghava@nsf.gov)

### **NSF Related Organizations**

Directorate for Biological Sciences

Division of Biological Infrastructure

Division of Integrative Organismal Systems.

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## **Grant Opportunity Alerts**

Keywords and Areas Included in Grant Opportunity Alerts:

**Internal Faculty Seed Grant Opportunities:** 2016 NJIT Faculty Seed Grants; 2016 Rutgers BHI-RUN-NJIT Pilot Grants Program in Neuroscience

**NSF:** Wireless Innovation between Finland and US (WiFiUS)); NSF/Intel Partnership on Information-Centric Networking in Wireless Edge Networks (ICN-WEN); Platforms for Advanced Wireless Research (PAWR): Establishing the PAWR Project Office (PPO) (PAWR/PPO); Partnerships for Innovation: Accelerating Innovation Research- Technology Translation (PFI: AIR-TT); NSF/VMware Partnership on Software Defined Infrastructure as a Foundation for Clean-Slate Computing Security (SDI-CSCS); Information and Intelligent Systems (IIS): Core Programs; Secure and Trustworthy Cyberspace (SaTC); Computing and Communication Foundations (CCF): Core Programs; Partnerships for International Research and Education (PIRE)

**NIH:** Clinical Research Education and Career Development (CRECD) Program (R25)



**Department of Defense/US Army/DARPA/ONR:** Spinal Cord Injury Research Program  
Clinical Research Development Award; Neuromusculoskeletal Injuries Rehabilitation Research  
Award

**Department of Energy:** Clean Energy Manufacturing Innovation Institute for Reducing  
Embodied-energy of Materials and Decreasing Emissions (REMADE) in Manufacturing

**NASA:** ROSES 2016: Weather and Atmospheric Dynamics

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## **Grant Opportunities**

### **Internal Faculty Seed Grants**

#### **NJIT Faculty Seed Grant Awards – 2016-17**

##### **Purpose:**

NJIT “2020 Vision” strategic plan targets on substantial increase in academic research and external funding with faculty and student professional development. The purpose of the NJIT Faculty Seed Grant (FSG) initiative is to promote academic research in the core and interdisciplinary areas by providing seed funding to obtain preliminary results or establish hypotheses for developing future grant proposals for submission to external funding agencies. The FSG initiative specifically seeks seed funding proposals from faculty to launch new initiatives in core and interdisciplinary emerging areas aligned with NJIT strategic tactics to develop critical research mass.

##### **Eligibility and Type of Awards:**

NJIT full-time faculty with specific research initiative to enhance the critical mass in key and emerging areas may apply to FSG program for internal funding with a budget of \$7500 per project over the FY17 ending June 30, 2017. Multidisciplinary projects with strong recommendation and justification from College/School Dean will be considered at the funding level of \$10,000 subject to availability of funds.

It is expected that 15-20 FSG awards will be made this year. Funding is arranged through the Offices of Research and College/School Deans.

Recipients of FSG as lead faculty are not eligible to receive another FSG award as lead faculty within three years from the last FSG award. Projects funded by FSG are not eligible to receive another FSG as the intent of internal seed funding is to facilitate initial research towards obtaining external funds to pursue research.

Allowable Expenses include Project supplies and small equipment, travel to conferences and/or funding agencies, travel expenses for funding agency people to visit NJIT, student hourly wages. Faculty summer salary, AY release and any stipend are not permitted in the budget.

##### **Deadlines:**

CFP Announcement: May 6, 2016

FSG Proposal Due in the Office of College/School Dean: September 1, 2016

College/School Dean Recommendations to Office of Research: September 10, 2016



Announcement of Awards: September 15, 2016

Period of Award: October 1, 2016 – June 30, 2017 (no extension will be available)

**Review Process and Criterion:**

All Proposals will be reviewed within the College/School to which PI is affiliated. College/School Dean will make the recommendation of top ranked proposals based on the reviews from the College/School review committee, which will be forwarded to the Office of Research for further review and discussion with Deans leading to the announcement of awards.

Review criterion primarily includes the scientific merit of the proposal, and potential of external funding. Additional criterion includes significance of project goals, fit to the NJIT strategic research clusters and emerging trends towards developing critical mass in key areas, justification of internal funding, expected outcomes, and faculty expertise.

**Other Requirements:** Faculty receiving FSG awards will submit a full proposal to external funding agencies within six months from the end date of the award. They will also participate in the NJIT Faculty Research Showcase and Panel Discussion events in Spring semester.

**Required FSG Proposal Format:**

The main proposal (sections 2-7 in the required FSG proposal format below) is limited to 5 pages with single spaced 12 point font size. The page limit does not include the cover sheet, budget and budget justification (maximum one page) and list of references (maximum one page). In addition up to 2 pages of biographical sketch and 1 page of current and pending support are required for PI and each investigator. Please see the proposal format guidelines below.

The main proposal should have the following sections:

1. Cover Sheet:
  - Title of the Project
  - Principal and Co-Principal Investigators
  - Department
  - College
  - Date Submitted
  - PI and Co-PI (if multiple investigators) Signatures
2. Abstract (Maximum 250 words; Non-IP for public dissemination):  
(Please summarize briefly on):
  - a. Project Goal(s)
  - b. Significance
  - c. Expected Outcomes
  - d. Justification of Internal Funding
3. Specific Objectives
4. Methods and Procedures
5. Evaluation and Deliverables
6. Future Plans  
(Describe how the project funding with the deliverables will help in future proposal submissions, enhancing the research synergy, and obtaining external funds)
7. Justification of Internal Funding  
(Describe what other funds are available and why additional internal funding is needed)

8. Budget and Budget Justification (maximum 1 page)
9. References (maximum 1 page)
10. Appendix (for PI and each Co-PI/Investigator):
  - a. PI Biographical Sketch (NSF/NIH or Federal Agency Format; maximum 2 pages per investigator)

Other Grant Support (maximum 1 page per investigator; summarize specific project goal(s) for each grant and any overlap with this proposal)

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## 2016 Rutgers BHI-RUN-NJIT Pilot Grants Program in Neuroscience

We are pleased to announce the 2016 pilot grants program in neuroscience at Rutgers University. There are two main objectives of these pilot awards program: (i) to foster **new** collaborative, interdisciplinary research in the neurosciences not only across Rutgers but also NJIT, Kessler Foundation Research Center, East Orange VA Medical Center, and (ii) support pilot experiments that will lead to sustained funding from an external agency (e.g., NIH). There are two categories of pilot grants available; each award is limited to **\$40,000** direct costs and no indirect costs or overhead are allowed. For both type of pilots, collaborative multidisciplinary efforts are encouraged. The deadline for these applications is **5 PM Tuesday, September 6<sup>th</sup>, 2016**. The two categories of awards are:

- (i) Translational neuroscience awards – these must address disease mechanisms, focusing on diagnosis, tools or treatments that involve animal models, clinical studies, or basic neuroscience relevant to a future clinical application. *The clinical relevance must be clearly described in the Research Plan.* These pilots require at least 2 faculty Co-PIs with appointments from different Schools across Rutgers. Formation of teams that integrate basic and clinical themes with a vision of a future translational impact will have preference. **Six** translational pilots are available and are funded by the BHI. Four out of the six BHI-funded pilot awards will only be for applications submitted by faculty co-PIs from RU-New Brunswick and RBHS. The other two can include co-PIs from RUN and NJIT.
- (ii) Basic neuroscience awards – These can include a focus on more basic neural mechanisms, or focus on translational neuroscience experiments involving an animal model or clinical studies. These Basic awards must include at least 2 Co-PIs, no more than one of which can be a faculty member at RUN (**Four** awards funded by the RUN Strategic plan fund), or at NJIT (**One** award funded by NJIT).

**Format:** All applications should be formatted as an R21 NIH style application (**1 page** Specific Aims and **6 pages** for the Research Plan). Also include Literature Cited, Budget, Budget Justification, NIH Biosketches for all Key Personnel/Co-PIs, and Resources and Environment). Within the Research Plan under the Innovation section please describe explicitly how the pilot funding will promote new collaborations and/or new projects. Indicate one or more extramural funding agencies that you plan to target with the current or an expanded version of the proposal (for NIH grants, indicating study sections that could potentially review your proposal would also be helpful). The application should be single-spaced, use font/size Arial 11 with 0.5 inch page margins. *Funded* applicants from last year seeking a second year of funding must include in addition a **1 page** Introduction that gives a report of progress made in Year 1, grants and papers submitted as well as a clear justification for the need of second year of funding. Applicants will need to submit the Rutgers Endorsement form at submission and be compliant with the University's eFCOI requirements. IRB and IACUC approvals will need to be submitted using the Just-In-Time (JIT) approach. These forms and approvals are not required at the time of initial grant application submission on September 6th; however, awardees will have to submit these items before the funds from the grant award are disbursed. We anticipate that the award

announcement will be made in November 2016. It is recommended that the applicants prepare and submit the IACUC/IRB applications associated with the pilot grant project well in advance, to the appropriate institutional committees, in order to get these approvals in a timely-fashion.

*Please note*-the pilot award funds cannot be used for PI and co-PI salaries. Pilot funds can be budgeted for post-doc, student and research technician stipends and salaries. Purchase of equipment costing more than \$5000 needs to be well-justified in the budget. Funds budgeted for purchase of equipment costing more than \$5000 have to be encumbered by June 30<sup>th</sup>, 2017. All applications must include the Cover page (Title, co-PI's, institutions, etc.) accompanying this announcement. The application should be combined into one PDF document with the Cover page in the front. Submit the SINGLE PDF file to [bhi@ca.rutgers.edu](mailto:bhi@ca.rutgers.edu) **5 PM Tuesday, September 6<sup>th</sup>, 2016**

All grants will undergo a dual stage review process, organized by the Brain Health Institute in collaboration with RUN and NJIT. They will have an initial external review to judge scientific quality and assign a priority score by external reviewers (similar to NIH study section review). They then will be reviewed by an internal committee (similar to an NIH Council Review) to allocate funds consistent with the long-term strategies for developing neuroscience research at Rutgers and NJIT and the source of pilot funds. One main factor in determining funding will be perceived likelihood that the pilot data generated will lead to external funding.

All pilot awardees will be required to submit a final progress report within 2 months of the end of the award. This report will include publications and grant applications submitted, as well as results obtained and significance of those results. One PI also will be required to orally present results of the studies at the Annual BHI symposium.

Awards will be announced by end of November 2016. Additional pilot funding may be available next year; successful applicants from this round can apply for a second year of funding at that point but will compete with new applications as well.

Please contact Gary Aston-Jones or Eldo Kuzhikandathil ([bhi@ca.rutgers.edu](mailto:bhi@ca.rutgers.edu)), Nabil Adam ([adam@adam.rutgers.edu](mailto:adam@adam.rutgers.edu)) or Atam P Dhawan ([atam.p.dhawan@njit.edu](mailto:atam.p.dhawan@njit.edu)) with questions.

Gary Aston-Jones, Ph.D., Director, Brain Health Institute, Rutgers University/Rutgers Biomedical and Health Sciences  
Nabil Adam, Ph.D., Vice Chancellor for Research & Collaborations and Founding Director for Rutgers Institute for Data Science, Learning, and Applications, Rutgers University-Newark  
Atam P Dhawan, Ph.D., Vice Provost for Research and Development, New Jersey Institute of Technology

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## **National Science Foundation**

### **Grant Program: Wireless Innovation between Finland and US (WiFiUS))**

**Agency: National Science Foundation NSF 16-587**

**RFP Website:** <http://www.nsf.gov/pubs/2016/nsf16587/nsf16587.htm>

**Brief Description:** The US National Science Foundation (NSF) and the Academy of Finland have signed a Memorandum of Understanding (MOU) on research cooperation in the area of wireless networking. This MOU provides an overarching framework to encourage collaboration between the US and Finland research communities, and sets out the principles by which jointly supported activities may be developed. With this solicitation, NSF's Directorate for Computer and Information Science and Engineering (CISE) and the Academy of Finland continue a joint program in the area of wireless networking, known as Wireless Innovation between Finland and

US (WiFiUS) that provides for an international collaboration arrangement whereby US researchers may receive funding from NSF and Finnish collaborators may receive funding from the Academy of Finland to pursue joint projects.

Specifically, this solicitation continues the previous WiFiUS effort (see [NSF 14-563](#)), encouraging new and closer research collaborations, and addressing compelling research challenges on novel frameworks, architectures, protocols, theories, methodologies, and tools for the design and analysis of robust and highly dependable wireless communication systems and networks, particularly in light of the emerging Internet of Things (IoT).

This NSF solicitation parallels an equivalent Academy of Finland solicitation. Proposals submitted pursuant to this solicitation must describe joint research with Finnish counterparts who are requesting funding separately under the Academy of Finland solicitation.

**Awards:** Standard grants. **Anticipated Funding Amount:** \$2,500,000

**Letter of Intent:** Not required.

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

**Full Proposal Submission Due Date:** October 17, 2016

**Contacts:**

- Wenjing Lou, Program Director, CNS, 1175, telephone: (703) 292-8950, email: [wlou@nsf.gov](mailto:wlou@nsf.gov)
- D. Richard Brown, Program Director, CCF, 1115, telephone: (703) 292-8910, email: [ribrown@nsf.gov](mailto:ribrown@nsf.gov)

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**Grant Program: NSF/Intel Partnership on Information-Centric Networking in Wireless Edge Networks (ICN-WEN)**

**Agency: National Science Foundation NSF 16-586**

**RFP Website:** <http://www.nsf.gov/pubs/2016/nsf16586/nsf16586.htm>

**Brief Description:** Next-generation wireless networks, utilizing a wide swath of wireless spectrum and an array of novel technologies in the wired and wireless domains, are on the cusp of unleashing a broadband revolution with promised peak bit rates of tens of gigabits per second and latencies of less than a millisecond. Such innovations will make possible a new set of applications such as autonomous vehicles, industrial robotics, tactile Internet applications, virtual and augmented reality, and dense Internet of Things (IoT) deployments. A key requirement of these applications is fast *information response time* that is invariant as a function of the bandwidth demanded, users/devices supported, and data generated, of which low-latency wireless access time is only one component. Intrinsic security, seamless mobility, scalable content caching, and discovery/distribution services are also essential for such applications. This solicitation seeks unique data network architectures featuring an *information plane using an Information-Centric Networking (ICN) approach* and addressing discovery, movement, delivery, management, and protection of information within a network, along with the abstraction of an underlying *communication plane* creating opportunities for new efficiencies and optimizations across communications technologies that could also address latency and scale requirements.

**Awards:** Standard grants. **Anticipated Funding Amount:** \$3,000,000

**Letter of Intent:** September 19, 2016.

**Full Proposal Submission Due Date:** November 21, 2016

**Contacts:**

- Thyagarajan Nandagopal, Program Director, NSF CISE/CNS, telephone: (703) 292-8950, email: [tnandago@nsf.gov](mailto:tnandago@nsf.gov)

- Darleen L. Fisher, Program Director, NSF CISE/CNS, telephone: (703) 292-8950, email: [dlfisher@nsf.gov](mailto:dlfisher@nsf.gov)
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**Grant Program: Platforms for Advanced Wireless Research (PAWR): Establishing the PAWR Project Office (PPO) (PAWR/PPO)**

**Agency: National Science Foundation NSF 16-585**

**RFP Website:** <http://www.nsf.gov/pubs/2016/nsf16585/nsf16585.htm>

**Brief Description:** The **Platforms for Advanced Wireless Research**(PAWR) program aims to support advanced wireless research platforms conceived by the U.S. academic and industrial wireless research community. PAWR will enable experimental exploration of robust new wireless devices, communication techniques, networks, systems, and services that will revolutionize the nation's wireless ecosystem, thereby enhancing broadband connectivity, leveraging the emerging Internet of Things (IoT), and sustaining US leadership and economic competitiveness for decades to come. In order to support the design, development, deployment, and operations of the advanced wireless research platforms, the National Science Foundation's (NSF) Directorate for Computer and Information Science and Engineering (CISE) will support the work of a PAWR Project Office (PPO). Working closely with the wireless research community, the PPO will assume responsibility for design, development, and deployment of a set of advanced wireless research platforms. Upon successful completion of the design of advanced wireless research platforms, and contingent upon support from NSF management, the PPO will proceed to the development and deployment phases with funding provided by NSF as well as a PAWR Industry Consortium. Upon successful deployment of each individual research platform, the PPO may subsequently operate the platform in service to the wireless research community.

**Awards:** Cooperative agreement. **Anticipated Funding Amount:** \$5,000,000

**Pre-Proposal Deadline:** September 20, 2016

**Full Proposal Submission Due Date:** November 23, 2016

**Limit on Number of Proposals per Organization:** 1

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

**Contacts:**

- Thyagarajan Nandagopal, Program Director, CISE/CNS, 1175, telephone: (703) 292-8950, email: [tnandago@nsf.gov](mailto:tnandago@nsf.gov)
  - Jack Brassil, Program Director, CISE/CNS, 1175, telephone: (703) 292-8950, email: [jbrassil@nsf.gov](mailto:jbrassil@nsf.gov)
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**Grant Program: Partnerships for Innovation: Accelerating Innovation Research-Technology Translation (PFI: AIR-TT)**

**Agency: National Science Foundation NSF 16-583**

**RFP Website:** <http://www.nsf.gov/pubs/2016/nsf16583/nsf16583.htm>

**Brief Description:** The NSF Partnerships for Innovation (PFI) program within the Division of Industrial Innovation and Partnerships (IIP) is an umbrella for two complementary subprograms, Accelerating Innovation Research (AIR) and Building Innovation Capacity (BIC). Overall, the PFI program offers opportunities to connect new knowledge to societal benefit through translational research efforts and/or partnerships that encourage, enhance and accelerate innovation and entrepreneurship. The subject of this solicitation is PFI: AIR-Technology Translation (PFI: AIR-TT). The PFI: AIR-TT solicitation serves as an early opportunity to move previously NSF-funded research results with promising commercial

potential along the path toward commercialization. Projects are supported to demonstrate proof-of-concept, prototype, or scale-up while engaging faculty and students in entrepreneurial/innovative thinking.

**WEBINAR:** A webinar will be held the end of July or early August, 2016 to answer any questions about this solicitation. Details will be posted on the IIP website (<http://www.nsf.gov/eng/iip/pfi/air-tt.jsp>) as they become available.

**Awards:** Standard grants. **Anticipated Funding Amount:** \$10,000,000

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

**Letter of Intent:** September 08, 2016.

**Full Proposal Submission Due Date:** October 11, 2016

**Contacts:**

- Barbara H. Kenny, Program Director, telephone: (703) 292-4667, email: [bkenny@nsf.gov](mailto:bkenny@nsf.gov)

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**Grant Program: NSF/VMware Partnership on Software Defined Infrastructure as a Foundation for Clean-Slate Computing Security (SDI-CSCS)**

**Agency: National Science Foundation NSF 16-582**

**RFP Website:** <http://www.nsf.gov/pubs/2016/nsf16582/nsf16582.htm>

**Brief Description:** As the digital and physical worlds become increasingly intertwined, the real-world consequences of cyber-threats will become more pronounced. To mitigate foreseeable risks, fundamental advances in security are needed. This program will therefore explore the hypothesis that software defined infrastructure (SDI) enables realistic opportunities to revisit and improve the foundations of end-to-end computing security. SDI is an architectural approach in which compute, storage, and networking resources are virtualized; that is, abstractions of physical capabilities are made available to applications or higher-level services in a way that is decoupled from the underlying physical infrastructure. To date, SDI has been realized most fully in the context of data-centers, but it can also be viewed as a foundation for related emerging contexts such as the Internet of Things (IoT). Novel security properties of SDI have been demonstrated, and meanwhile, compute, storage, and network virtualization techniques are rapidly maturing. An intriguing opportunity is to systematically explore and identify the full potential of SDI as a new foundation for clean-slate computing security (CSCS).

The goal of this joint solicitation between NSF and VMware is to foster novel, transformative, multidisciplinary research that spans systems, networking, and security with the aim of exploring and creating groundbreaking new approaches to security based on the concept of SDI. The program also aims to support a research community committed to advancing research and education at the confluence of SDI-CSCS technologies, and to transition research findings into practice. NSF and VMware will support multiple projects with funding of up to \$3,000,000 each over three years, and it is intended that NSF and VMware will co-fund each project. This NSF/VMware partnership combines CISE's experience in developing and managing successful large, diverse research portfolios with VMware's significant expertise in SDI, virtualization technology, distributed systems, cloud computing, and other aspects of large-scale software infrastructure and infrastructure management.

**Awards:** Standard grants. **Anticipated Funding Amount:** \$6,000,000

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

**Letter of Intent:** Not Required.

**Full Proposal Submission Due Date:** October 05, 2016

**Contacts:**



- Darleen L. Fisher, Program Director, CISE/CNS, telephone: (703) 292-8950, email: [dlfisher@nsf.gov](mailto:dlfisher@nsf.gov)
  - Mimi McClure, Associate Program Director, CISE/CNS, telephone: (703) 292-8950, email: [mmcclure@nsf.gov](mailto:mmcclure@nsf.gov)
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### **Grant Program: Information and Intelligent Systems (IIS): Core Programs**

**Agency: National Science Foundation NSF 16-581**

**RFP Website:** <http://www.nsf.gov/pubs/2016/nsf16581/nsf16581.htm>

**Brief Description:** CISE's Division of Information and Intelligent Systems (IIS) supports research and education projects that develop new knowledge in three **core programs**:

- The Cyber-Human Systems (CHS) program;
- The Information Integration and Informatics (III) program; and
- The Robust Intelligence (RI) program.

Proposals in the area of computer graphics and visualization may be submitted to any of the three core programs described above.

Proposers are invited to submit proposals in three project classes, which are defined as follows:

- Small Projects - up to \$500,000 total budget with durations up to three years;
- Medium Projects - \$500,001 to \$1,200,000 total budget with durations up to four years; and

Large Projects - \$1,200,001 to \$3,000,000 total budget with durations up to five years.

**Awards:** Standard grants. **Anticipated Funding Amount:** \$100,000,000

**Limit on Number of Proposals per PI or Co-PI: 2**

**Letter of Intent:** Not Required.

**Full Proposal Submission Window:** October 12, 2016 - October 19, 2016

#### **Contacts:**

- William S. Bainbridge, Point of Contact, Cyber-Human Systems (CHS), 1125, telephone: (703) 292-8930, email: [wbainbri@nsf.gov](mailto:wbainbri@nsf.gov)
  - Ephraim P. Glinert, Point of Contact, Cyber-Human Systems (CHS), 1125, telephone: (703) 292-8930, email: [eglinert@nsf.gov](mailto:eglinert@nsf.gov)
  - Tatiana Korelsky, Point of Contact, Robust Intelligence (RI), 1125, telephone: (703) 292-8930, email: [tkorelsk@nsf.gov](mailto:tkorelsk@nsf.gov)
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### **Grant Program: Secure and Trustworthy Cyberspace (SaTC)**

**Agency: National Science Foundation NSF 16-580**

**RFP Website:** <http://www.nsf.gov/pubs/2016/nsf16580/nsf16580.htm>

**Brief Description:** In today's increasingly networked, distributed, and asynchronous world, cybersecurity involves hardware, software, networks, data, people, and integration with the physical world. Society's overwhelming reliance on this complex cyberspace has, however, exposed its fragility and vulnerabilities: corporations, agencies, national infrastructure and individuals have been victims of cyber-attacks. Achieving a truly secure cyberspace requires addressing both challenging scientific and engineering problems involving many components of a system, and vulnerabilities that arise from human behaviors and choices. Examining the fundamentals of security and privacy as a multidisciplinary subject can lead to fundamentally new ways to design, build and operate cyber systems, protect existing infrastructure, and motivate and educate individuals about cybersecurity.

The goals of the Secure and Trustworthy Cyberspace (SaTC) program are aligned with the [Federal Cybersecurity Research and Development Strategic Plan](#) (RDSP) and the [National](#)



[Privacy Research Strategy](#) (NPRS) to protect and preserve the growing social and economic benefits of cyber systems while ensuring security and privacy. The RDSP identified six areas critical to successful cybersecurity R&D: (1) scientific foundations; (2) risk management; (3) human aspects; (4) transitioning successful research into practice; (5) workforce development; and (6) enhancing the research infrastructure. The NPRS, which complements the RDSP, identifies a framework for privacy research, anchored in characterizing privacy expectations, understanding privacy violations, engineering privacy-protecting systems, and recovering from privacy violations. In alignment with the objectives in both strategic plans, the SaTC program takes an interdisciplinary, comprehensive and holistic approach to cybersecurity research, development, and education, and encourages the transition of promising research ideas into practice.

The SaTC program welcomes proposals that address cybersecurity and privacy, and draw on expertise in one or more of these areas: computing, communication and information sciences; engineering; economics; education; mathematics; statistics; and social and behavioral sciences. **Proposals that advance the field of cybersecurity and privacy within a single discipline or interdisciplinary efforts that span multiple disciplines are both encouraged.**

Proposals may be submitted in one of the following three project size classes:

- Small projects: up to \$500,000 in total budget, with durations of up to three years;
- Medium projects: \$500,001 to \$1,200,000 in total budget, with durations of up to four years;
- Large projects: \$1,200,001 to \$3,000,000 in total budget, with durations of up to five years.

In addition to the project size classes, proposals must be submitted pursuant to one of the following designations, each of which may have additional restrictions and administrative obligations as specified in this program solicitation.

- CORE: The main focus of the SaTC research program, spanning the interests of NSF's Directorates for Computer and Information Science and Engineering (CISE), Engineering (ENG), Mathematical and Physical Sciences (MPS), and Social, Behavioral and Economic Sciences (SBE). Interdisciplinary proposals are welcomed to CORE.
- EDU: The Education (EDU) designation will be used to label proposals focusing entirely on cybersecurity education. *Note that proposals that are designated as EDU have budgets limited to \$300,000 and durations of up to two years.*
- STARSS: The Secure, Trustworthy, Assured and Resilient Semiconductors and Systems (STARSS) designation will be used to label proposals that are submitted to the joint program focused on hardware security with the Semiconductor Research Corporation (SRC). *The STARSS designation may only be used for Small proposals. This designation has additional administrative obligations.*

TTP: The Transition to Practice (TTP) designation will be used to label proposals that are focused exclusively on transitioning existing research results to practice. *The TTP designation may only be used for Small and Medium proposals.*

**Awards:** Standard grants. **Anticipated Funding Amount:** \$68,000,000

**Letter of Intent:** Not Required.

**Full Proposal Submission Window:** October 12, 2016 - October 19, 2016

**Contacts:**

- Nina Amla, Program Director, CISE/CCF, 1110, telephone: (703) 292-8910, email: [namla@nsf.gov](mailto:namla@nsf.gov)
- Sol Greenspan, Program Director, CISE/CCF, 1115, telephone: (703) 292-8910, email: [sgreensp@nsf.gov](mailto:sgreensp@nsf.gov)

- Timothy Hodges, Program Director, MPS/DMS, 1020, telephone: (703) 292-2113, email: [thodges@nsf.gov](mailto:thodges@nsf.gov)
  - Dongwon Lee, Program Director, EHR/DGE, 865, telephone: (703) 292-4679, email: [dlee@nsf.gov](mailto:dlee@nsf.gov)
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**Grant Program: Computer and Network Systems (CNS): Core Programs**

**Agency: National Science Foundation NSF 16-579**

**RFP Website:** <http://www.nsf.gov/pubs/2016/nsf16579/nsf16579.htm>

**Brief Description:** CISE's Division of Computer and Network Systems (CNS) supports research and education projects that develop new knowledge in two core programs:

- Computer Systems Research (CSR) program; and
- Networking Technology and Systems (NeTS) program.

Proposers are invited to submit proposals in three project classes, which are defined as follows:

- Small Projects - up to \$500,000 total budget with durations up to three years;
- Medium Projects - \$500,001 to \$1,200,000 total budget with durations up to four years; and
- Large Projects - \$1,200,001 to \$3,000,000 total budget with durations up to five years.

A more complete description of the three project classes can be found in section *II. Program Description* of this document.

**Awards:** Standard grants. **Anticipated Funding Amount:** \$60,000,000

**Limit on Number of Proposals per PI or Co-PI: 2**

**Letter of Intent:** Not Required.

**Full Proposal Submission Window:** October 12, 2016 - October 19, 2016

**Contacts:**

- Jack Brassil, NeTS Program Director, 1175, telephone: (703) 292-8950, email: [jbrassil@nsf.gov](mailto:jbrassil@nsf.gov)
  - Darleen L. Fisher, NeTS Program Director, 1175, telephone: (703) 292-8950, email: [dlfisher@nsf.gov](mailto:dlfisher@nsf.gov)
  - Wenjing Lou, NeTS Program Director, 1175, telephone: (703) 292-8950, email: [wlou@nsf.gov](mailto:wlou@nsf.gov)
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**Grant Program: Computing and Communication Foundations (CCF): Core Programs**

**Agency: National Science Foundation NSF 16-578**

**RFP Website:** <http://www.nsf.gov/pubs/2016/nsf16578/nsf16578.htm>

**Brief Description:** CISE's Division of Computing and Communication Foundations (CCF) supports research and education projects that develop new knowledge in three core programs:

- The Algorithmic Foundations (AF) program;
- The Communications and Information Foundations (CIF) program; and
- The Software and Hardware Foundations (SHF) program.

Proposers are invited to submit proposals in three project classes, which are defined as follows:

- Small Projects - up to \$500,000 total budget with durations up to three years;
- Medium Projects - \$500,001 to \$1,200,000 total budget with durations up to four years; and

Large Projects - \$1,200,001 to \$3,000,000 total budget with durations up to five years.

**Awards:** Standard grants. **Anticipated Funding Amount:** \$100,000,000

**Limit on Number of Proposals per PI or Co-PI: 2****Letter of Intent:** Not Required.**Full Proposal Submission Window:** October 12, 2016 - October 19, 2016**Contacts:**

- Almadena Y. Chtchelkanova, Point of Contact, Software and Hardware Foundations (SHF), 1115, telephone: (703) 292-8910, email: [achtchel@nsf.gov](mailto:achtchel@nsf.gov)
  - Tracy Kimbrel, Point of Contact, Algorithmic Foundations (AF), 1115, telephone: (703) 292-8910, email: [tkimbrel@nsf.gov](mailto:tkimbrel@nsf.gov)
  - D. Richard Brown, Point of Contact, Communications and Information Foundations (CIF), 1115, 1115, telephone: (703) 292-8910, email: [ribrown@nsf.gov](mailto:ribrown@nsf.gov)
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**Grant Program: Partnerships for International Research and Education (PIRE)****Agency: National Science Foundation NSF 16-571****RFP Website:** <http://www.nsf.gov/pubs/2016/nsf16571/nsf16571.htm>

**Brief Description:** Partnerships for International Research and Education (PIRE) is an NSF-wide program that supports international activities across all NSF-supported disciplines. The primary goal of PIRE is to support high quality projects in which advances in research and education could not occur without international collaboration. PIRE seeks to catalyze a higher level of international engagement in the U.S. science and engineering community. International partnerships are essential to addressing critical science and engineering problems. In the global context, U.S. researchers and educators must be able to operate effectively in teams with partners from different national environments and cultural backgrounds. PIRE promotes excellence in science and engineering through international collaboration and facilitates development of a diverse, globally-engaged, U.S. science and engineering workforce.

This PIRE competition will be open to all areas of science and engineering research which are supported by the NSF.

**Awards:** Standard grants. **Anticipated Funding Amount:** \$8,000,000 to \$12,000,000 annually, for all new awards, pending the availability of funds

**Letter of Intent:** Not Required.

**Preliminary Proposals:** Submission of Preliminary Proposals is required. Please see the full text of this solicitation for further information. Deadline: September 14, 2016

**Full Proposal Submission Due Date:** April 24, 2017**Limit on Number of Proposals per Organization: 1**

A single organization may submit one preliminary proposal as the lead institution. Full proposals will be accepted by invitation only. There is no limit on the number of proposals in which an institution can participate as a partner.

**Limit on Number of Proposals per PI or Co-PI:** There are no restrictions or limits.**Contacts:**

- Cassandra M. Dudka, telephone: (703)292-7250, email: [PIRE-info@nsf.gov](mailto:PIRE-info@nsf.gov)
- Cassidy Burke, telephone: (703)292-2464, email: [PIRE-info@nsf.gov](mailto:PIRE-info@nsf.gov)

**NJIT Internal Competition:**

Due to the limit of only one submission per institution, an internal competition has been set up to select NJIT proposal to PIER RFP opportunity. All internal preliminary proposals should be submitted to respective college deans by August 1, 2016. Only one preliminary proposal per college with the recommendation of the college dean must be forwarded to the Office of Research by August 8 for institutional review. Selected preliminary proposal will be announced

by August 12 for submission to NSF by the due date of September 14, 2016. NJIT internal preliminary proposal should consist of the following elements:

- **Cover Sheet:** Check the box indicating that this is a preliminary proposal. Provide an informative title that begins with "PIRE:". The proposed PIRE Project Director must be shown as the Principal Investigator.
- **Project Summary:** (1 page maximum) Describe the concept of the proposed PIRE project, including why the international partnership is critical to the project success. Separately address the intellectual merit and broader impacts of the project. The summary should be informative to those working in the same or related field(s), and understandable to a scientifically or technically literate reader.
- **Project Description (6 page maximum):** The Project Description should take the form of a concept paper that clearly outlines the research challenges being addressed or breakthroughs being sought in the proposed PIRE project. The proposed approaches must be innovative and must show clear benefit from international collaboration (for example, expertise, facilities, resources, access to phenomena) and active engagement of US students and junior researchers. Include the following elements:
  - **Administrative Summary** (1 page maximum) should include:
    - title of the project
    - principal investigator
    - length of study (maximum 5 years)
    - estimated total budget (does not need to be itemized)
    - lead institution
    - list of partner institutions and key researchersIf the proposal is to be considered for Additional Funding Opportunity(ies) as described in Section II.D., **explicitly name the funding partner agency(ies)**.
  - **Research Summary** (3 page maximum): Summarize the main ideas and essence of the proposed research. Describe the issue/topic the proposed research is trying to address, the overall goal, approaches, expected outcomes, and the synergy that each participant brings to the project.
  - **Education Summary** (2 page maximum): Describe the goals of the proposed education activities, and how the integration of research and education will advance the proposed PIRE project in a way that other funding mechanisms cannot. A justification for education programs and activities should be included and described in the context of current knowledge of teaching and learning.
- **References Cited:** Per NSF Grant Proposal Guide instructions.
- **Biographical Sketches:** Required for PIRE Project Director (PI), Co-PIs, and key domestic and international partners. Use the required NSF Biographical Sketch format as specified in the NSF Grant Proposal Guide ([GPG Chapter II.C.2.f](#)).

**Any question on internal preliminary proposal competition should be directed to Atam Dhawan, Vice Provost for Research ([dhawan@njit.edu](mailto:dhawan@njit.edu))**

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### **National Institutes of Health**

**Grant Program: Clinical Research Education and Career Development (CRECD) Program (R25)**

**Agency: National Institutes of Health PAR-16-350**

**RFP Website:** <http://grants.nih.gov/grants/guide/pa-files/PAR-16-350.html>

**Brief Description:** The purpose of the Clinical Research Education and Career Development (CRECD) Program is to expand the national capability to improve diversity for research in the health sciences by developing the research workforce in clinical and translational sciences through providing grant support to institutions that offer doctorate degrees in the health professions or in a health-related science. These institutions historically have educated and trained professionals from diverse backgrounds who provide health care to health disparities populations and are uniquely positioned to engage these populations in research and in the translation of research advances into culturally appropriate, measurable and sustained improvements in health outcomes.

The primary goals of the CRECD program are to (1) support courses for skill development to educate postdoctoral participants in clinical research leading to a Master of Science in Clinical Research or Master of Public Health or Masters in Population Health; and (2) support research experiences to develop a group of clinical researchers who have the necessary knowledge and skills to pursue clinical research and can become part of translational, population health and/or patient-oriented research, particularly on diseases that disproportionately impact minority and health disparity populations.

The CRECD award will provide up to five years of support consisting of two components referred to as Phase I and Phase II: (1) Phase I to improve existing courses and offer structured didactic program and mentored clinical research project leading to a degree in Master of Science in Clinical Research or Master of Public Health or Masters in Population Health for participants; (2) Phase II of the program will provide continued research experiences to the CRECD Phase I graduates for up to three years in clinical research as part of their education and skill development to become independent clinical, translational and population health investigators. The goal is to promote the development of trained and independent clinical researchers who can conduct clinical research activities in areas that are in accordance with NIH co-funding entities and also, addressing health disparities among underserved Americans.

The Program Director/Principal Investigator (PD/PI) leads a multi-disciplinary CRECD Advisory Committee (CAC) to design, develop, implement and evaluate the progress of Phase I participants and the CRECD graduates who are continuing through Phase II of the clinical research education and training.

**Awards:** The maximum budget is \$500,000 in direct costs per year. The application budget needs to reflect the actual needs of the proposed project.

**Letter of Intent:** August 1, 2016

**Deadline:** September 1, 2016, 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.

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## **Department of Defense/US Army/DARPA/ONR**

### **Grant Program: Spinal Cord Injury Research Program Clinical Research Development Award**

**Agency:** Department of Defense W81XWH-16- SCIRP-CRDA

**Website:** [http://cdmrp.army.mil/funding/pa/16scirpcrda\\_pa.pdf](http://cdmrp.army.mil/funding/pa/16scirpcrda_pa.pdf)

**Brief Description:** Applications to the Fiscal Year 2016 (FY16) Spinal Cord Injury Research Program (SCIRP) are being solicited for the Defense Health Agency, Research, Development, and Acquisition (DHA RDA) Directorate, by the U.S. Army Medical Research Acquisition Activity



(USAMRAA). As directed by the Office of the Assistant Secretary of Defense for Health Affairs (OASD[HA]), the DHA RDA Directorate manages the Defense Health Program (DHP) Research, Development, Test, and Evaluation (RDT&E) appropriation. The managing agent for this Program Announcement/Funding Opportunity is the Congressionally Directed Medical Research Programs (CDMRP). The SCIRP was initiated in 2009 to provide support for research of exceptional scientific merit that has the potential to make a significant impact on improving the health and well-being of military Service members, Veterans, and other individuals living with SCI. Appropriations for the SCIRP from FY09 through FY15 totaled \$157.85 million (M). The FY16 appropriation is \$30M.

The FY16 SCIRP challenges the scientific community to design research that will foster new directions for and address neglected issues in the field of SCI-focused research. Applications from investigators within the military Services, and applications involving multidisciplinary collaborations among academia, industry, the military Services, the Department of Veterans Affairs (VA), and other Federal Government agencies are highly encouraged. Though the SCIRP supports groundbreaking research, all projects must demonstrate solid scientific rationale.

The SCIRP Clinical Research Development Award (CRDA) is intended to support the planning and development activities necessary to initiate a future clinical research study with military and/or Veteran populations and with the potential to have a significant impact on spinal cord injuries. The future study being developed through the CRDA may be clinical research or a clinical trial. The proposed project may address any aspect(s) of the FY16 SCIRP Areas of Encouragement, including, as examples, the evaluation of promising new products, pharmacologic agents (drugs or biologics), devices, clinical guidance, and/or emerging approaches and technologies. All applications are required to justify the relevance of the proposed project to military and/or Veteran populations affected by SCI. ***The FY16 SCIRP CRDA also encourages the inclusion of junior investigators on the research teams.***

**Awards:** The anticipated direct costs budgeted for the entire period of performance will not exceed **\$100,000**. Indirect costs are to be budgeted in accordance with the organization's negotiated rate. No budget will be approved by the Government exceeding **\$100,000** direct costs or using an indirect rate exceeding the organization's negotiated rate.

**Deadline: Pre-Application Submission Deadline:** 5:00 p.m. Eastern time (ET), September 7, 2016. **Application Submission Deadline:** 11:59 p.m. ET, September 21, 2016

**Agency contact:** White papers shall be submitted to the Contracting Point of Contact (POC): Gary R. Victor, Contract Negotiator, or Whitney L. Foxbower, Contracting Officer, AFRL/RQKMA, Building 45, 2130 8th St., Wright-Patterson AFB, OH 45433-7541

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### **Grant Program: Neuromusculoskeletal Injuries Rehabilitation Research Award**

**Agency: Department of Defense Congressionally Directed Medical Research Programs W81XWH-17-DMRDP-CRMRP-NMSIRRA**

**RFP Website:** [http://cdmrp.army.mil/funding/pa/17dmrdpnmsirra\\_pa.pdf](http://cdmrp.army.mil/funding/pa/17dmrdpnmsirra_pa.pdf)

**Brief Description:** The Neuromusculoskeletal Injuries Rehabilitation Research Award (NMSIRRA) Programmatic Panel identified the following five major focus areas for FY17-18.

To meet the intent of the award mechanism, applications must specifically address one or more of the FY17-18 JPC-8/CRMRP NMSIRRA Focus Areas listed here. Applications proposing research outside of these Focus Areas should not be submitted in response to this Program Announcement/Funding Opportunity.

- • Lack of short- and long-term evidence for existing support and reintegration strategies, and a need for new evidence-based support and reintegration strategies

- Limited current technologies, including prosthetics and orthotics, for the rehabilitation or replacement of function that optimize patient interaction, usability, and durability
- Limited ability to predict, prevent, and mitigate development of secondary health deficits following neuromusculoskeletal injury
- Limited understanding of the management of patient rehabilitation strategies throughout the rehabilitation process following neuromusculoskeletal injury
- Lack of validated metrics that effectively assess initial presentation, rehabilitation, and reintegration following neuromusculoskeletal injury

**Awards:** Research Level 1/New Investigator: This level may support development of novel technology and proof of concept studies. It may also be used to address all focus areas above. Specific eligibility details are provided in Section I.D., Eligibility Information.

Research Level 2: These awards are intended to address all focus areas and objectives outlined above. Studies should be designed to provide clear evidence that will contribute to improvements in patient care, optimizing the rehabilitation of injured Service members; purely developmental or animal studies are not encouraged

The total costs budgeted for the entire period of performance will not exceed \$600,000. Indirect costs are to be budgeted in accordance with the organization's negotiated rate. No budget will be approved by the Government exceeding \$600,000 total costs or using an indirect rate exceeding the organization's negotiated rate.

**Deadline:** Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), August 22, 2016

- Invitation to Submit an Application: September 26, 2016
- Application Submission Deadline: 11:59 p.m. ET, November 16, 2016

## **Department of Energy**

**Grant Program: Clean Energy Manufacturing Innovation Institute for Reducing Embodied-energy of Materials and Decreasing Emissions (REMADE) in Manufacturing**

**Agency: Department of Energy DE-FOA-0001594RFP**

**Website:** <https://eere-exchange.energy.gov/default.aspx#FoaIda1ab41d9-cb57-4413-a9da-fbfb23bc5c73>

**Brief Description:** The Office of Energy Efficiency and Renewable Energy (EERE), within the U.S. Department of Energy (DOE), invests in cutting-edge research, development, and demonstration (RD&D) activities focused on sustainable transportation, renewable power, and energy efficiency. In 2013, EERE launched its Clean Energy Manufacturing Initiative (CEMI) with the goal of significantly increasing U.S. manufacturing competitiveness in the production of clean energy products and in domestic manufacturing across the board by increasing industrial energy productivity. EERE's Advanced Manufacturing Office (AMO) plays a key role in executing the mission for CEMI by supporting research and development projects, shared research facilities and technical consortia, and technical assistance programs. AMO establishes Manufacturing Innovation Institutes in the Administration's National Network for Manufacturing Innovation (NNMI) as shared research, development, and demonstration facilities to overcome cross-cutting challenges related to the manufacturing of clean energy and energy efficiency products, in addition to challenges associated with improving the energy efficiency of the manufacturing sector across the board. This FOA supports the establishment of a Clean Energy Manufacturing Innovation Institute for Reducing Embodied-energy And Decreasing Emissions (REMADE) in Materials Manufacturing. This Institute will enable the



development and widespread deployment of key industrial platform technologies that will dramatically reduce life-cycle energy consumption and carbon emissions associated with industrial-scale materials production and processing through the development of technologies for reuse, recycling, and remanufacturing of materials. Solving this enormous and currently unmet challenge could significantly reduce U.S. primary energy usage and greenhouse gas emissions in the manufacturing sector, which represents a particularly challenging sector to decarbonize, and improve U.S. manufacturing competitiveness in the process. The full Funding Opportunity Announcement is posted on the EERE Exchange website at <https://eere-exchange.energy.gov>. Applications must be submitted through the EERE Exchange website to be considered for award. The applicant must first register and create an account on the EERE Exchange website. The Users' guide for applying to Department of Energy, Energy Efficiency and Renewable Energy's Funding Opportunity Announcements through the Exchange website can be found at <https://eere-exchange.energy.gov/Manuals.aspx>. Information on where to submit questions regarding the content of the announcement and where to submit questions regarding submission of applications is found in the full FOA posted on the EERE Exchange website. The Exchange system is currently designed to enforce hard deadlines for Full Application submissions. The APPLY and SUBMIT buttons automatically disable at the defined submission deadlines. The intention of this design is to consistently enforce a standard deadline for all applicants. Applicants that experience issues with submissions PRIOR to the FOA Deadline: In the event that an Applicant experiences technical difficulties with a submission, the Applicant should contact the Exchange helpdesk for assistance (EERE-ExchangeSupport@hq.doe.gov).

**Awards:** Total available funding: \$70,000,000

**Deadline:**

Informational Webinar: 6/29/2016 3:00pm ET

Submission Deadline for Concept Papers: 7/28/2016 5:00pm ET

Submission Deadline for Full Applications: 9/28/2016 5:00pm ET

Expected Submission Deadline for Replies to Reviewer Comments: 10/25/2016 5:00pm ET

Expected Date for EERE Selection Notifications: December 2016

**Agency contact:** To apply to this FOA, applicants must register with and submit application materials through EERE Exchange at <https://eere-Exchange.energy.gov>, EERE's online application portal.

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**NASA**

**Grant Program: ROSES 2016: Weather and Atmospheric Dynamics**

**Agency: NASA NNH16ZDA001N-WEATHER**

**RFP Website:**

<https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={AAC58B3E-A615-5360-DEEF-077B6F08ACE9}&path=init>

**Brief Description:** The study of weather includes an analysis of the dynamics of the atmosphere and its interaction with the oceans and land. Improvement of our understanding of weather processes and phenomena is crucial in gaining an understanding of the Earth system. The Weather Focus Area ([http://science.nasa.gov/media/medialibrary/2015/08/03/Weather\\_Focus\\_Area\\_Workshop\\_Report\\_2015.pdf](http://science.nasa.gov/media/medialibrary/2015/08/03/Weather_Focus_Area_Workshop_Report_2015.pdf)) is primarily designed to apply NASA scientific remote sensing expertise to the problem of obtaining accurate and globally distributed measurements of the atmosphere and the assimilation of these measurements into research and operational weather forecast models

in order to improve and extend U.S. and global weather prediction. NASA-sponsored research continues to gain new insight into weather and extreme-weather events by the utilization of data obtained from a variety of satellite platforms (TRMM, GPM, Aqua, Terra, Suomi NPP, CloudSat, CALIPSO, SMAP and CYGNSS) and hurricane-themed tropical field experiments.

This solicitation is aimed at enabling improved predictive capability for certain weather and extreme weather events in four specific areas. The first one relates to the use of past NASA airborne data from a long series of field experiments, and in conjunction with satellite data and numerical models, to better understand tropical cyclone genesis and intensity changes. The second one is focused on utilizing the soon to be launched CYclone Global Navigation Satellite System (CYGNSS) satellite mission for the study of the Madden-Julian oscillation (MJO) and tropical cyclones. The third one offers research opportunities related to the upcoming availability of a Lightning Imaging Sensor (LIS) on the International Space Station (ISS), and, the last one describes an opportunity related to the conduct of a field experiment in 2017.

**Award:** Available funds: \$3.2M first year and ~\$2.7M in year 2 and year 3.

**Proposal Deadline:** Weather16 NOIs Due: July 15, 2016; Proposals Due: September 15, 2016

**Agency Contact:** Ramesh K. Kakar

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Science Mission Directorate

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