

NJIT Research Newsletter

Issue: ORN-2016-015

Recent Awards

Page 1

Webinar Events and Announcements

Page 2

Grant Opportunities

Page 4

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

Recent Research Grant and Contract Awards

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

PI: Roland Levy (PI)

Department: Physics

Grant/Contract Project Title: Use of High Bandgap Materials in Multi Junction Devices

Funding Agency: Nanenergy Solar Corp.

Duration: 01/21/16-01/20/17

PI: Lazar Spasovic (PI)

Department: Civil and Environmental Engineering

Grant/Contract Project Title: UTC Consortium lead by CAIT, National Grant

Funding Agency: USDOT

Duration: 07/01/15-09/30/17

PI: Lazar Spasovic (PI), Joyoung Lee (Co-PI), Janice Daniel (Co-PI), Taha Marhaba (Co-PI), Athanassios Bladikas (Co-PI), Nirvan Ansari (Co-PI), Guiling Wang (Co-PI)

Department: Civil and Environmental Engineering, Mechanical and Industrial Engineering, Electrical & Computer Engineering,

Grant/Contract Project Title: Intelligent Transportation Systems Resource Center 2015-2016

Funding Agency: NJDOT

Duration: 12/17/14-12/31/16

PI: Donald Sebastian (PI)

Department: NJII

Grant/Contract Project Title: New Jersey Unmanned Aircraft System Test Site (UASTS)

Funding Agency: NJ EDA

Duration: 01/01/16-06/30/17

Events and Announcements

Event: Webinar: 4 Steps to Student Success with Academic Video

When: April 19, 2016 11.00 AM-11.45 AM

Where: <http://www.sonicfoundry.com/resource/4-steps-to-student-success-with-academic-video-ihe/>

Brief Description: Imagine using academic video to strengthen pre-requisite skills, enhance curriculum content, ease anticipated student struggles, and push students further in their knowledge of the course material. Brooke McCurdy has been teaching math for more than 14 years. When her classes morphed from a traditional in-person method to a flipped-classroom environment, she saw the success of her students soar as they became more engaged. In this webinar, she'll uncover the best practices for using video to teach math to grades 9-20, including:

- How to use academic video to reinforce learning, breakdown complex concepts and successfully implement classroom projects
- What benefits Brooke and her students realize by using Mediasite to personalize the learning experience
- Where she chose to break up lectures into shorter modules, and how it better complemented her overall course design
- Plus words of wisdom for other faculty just getting started teaching online.

About the Speakers: Brooke McCurdy: Brooke McCurdy has taught high school and college mathematics for 14 years. She has a Bachelor of Science in Mathematics, a Master of Science in Curriculum & Instruction, and an M.B.A. She is also a member of the National Council of Teachers of Mathematics. Brooke was selected as the Iredell-Statesville Schools 2015-2016 District Teacher of the Year in North Carolina and was selected as an Innovative Educator/Trainer. She has presented at North Carolina New Schools Summer Institute, Iredell-Statesville Schools Innovation Showcase, and Media & Learning Brussels.

Register at the above URL.

Event: IEEE Smart Grid Webinar

When: April 28, 2016 1.00 PM-2.00 PM

Where: <http://smartgrid.ieee.org/grid-modernization-and-der-deployment-lessons-learned-and-future-directions>

Brief Description: Regulatory initiatives to decarbonize our ecosystem have led to the growth of Distributed Energy Resources (DER), which include Solar-PV, Energy Storage, Demand Response and Electric Vehicles. DER growth has also been led by new innovative technologies. Moreover, recent grid restoration experiences from major storms have shown the potential of DER to provide emergency electricity service. DER is also revolutionizing how consumers value electricity service and reliability. DER provides new opportunities to optimize real-time transmission and distribution grid operations. This webinar will present the challenges and opportunities of DER for real-time grid operations, and will share lessons learned from recent Advanced Distribution Management Solutions (ADMS) and Distributed Energy Resource Management Solutions (DERMS) deployment projects in integrating, scheduling and dispatching of DER.

About the Speakers: Dr. Avnaesh Jayantilal is Director of Advanced Distribution Management Systems (ADMS) in **GE Grid Software Solutions** business assisting electric utilities in enhancing grid operations and reliability, business process optimization and ultimately customer

satisfaction. Avnaesh joined GE (then Alstom) in 1999, and prior to his current role, he held positions in Product Marketing, Business Development, Project Engineering and Software Development. Dr. Jayantilal supports and participates in the deployment of Community Microgrids for rural electrification in the developing world with IEEE Smart Village. He is a Senior Member of the IEEE Power and Energy Society (PES), in which he chairs the IEEE PES System Operations and Control Centre Subcommittee.

Register at: <http://smartgrid.ieee.org/grid-modernization-and-der-deployment-lessons-learned-and-future-directions>

Interesting News Items

Congressionally Directed Medical Research

The Congressionally Directed Medical Research Program (CDMRP), within the Department of Defense, has released a [set of program announcements](#) for lung cancer research including solicitations for Clinical Exploration Awards, Idea Development Awards, Translational Research Awards, and Career Development Awards. “Military Relevance” is a requirement for all award categories. Because of increased rates of smoking and exposure to environmental carcinogens during their service, military personnel are at a higher risk of developing lung cancer than the general population.

Read More: [CDMRP Press Release](#)

Defense Basic Research

The University Research Initiative (URI) is a DOD-wide program aimed at enhancing universities' capabilities to perform basic science and engineering research of relevance to defense interests. One of the URI components, the Multidisciplinary Research Program (MURI), supports basic research in science and engineering areas intersecting more than one discipline. The Air Force Office of Scientific Research has released solicitation [N00014-16-R-FO05](#) inviting proposals for FY17. The solicitation lists 23 specific topics identified by the Air Force Office of Scientific Research, the Office of Naval Research, and the Army Research Office. Mutlidisciplinary teams may consist of investigators from different universities, or from different departments within the same university. White Papers are due August 1, with full proposals November 15.

Climate Science

One recurring issue in public debates over climate science is whether an overwhelming majority of climate experts actually agree with the statement of the Intergovernmental Panel on Climate Change: “...*human influence has been the dominant cause of the observed warming since the mid-20th century.*” A new study entitled [Consensus on consensus: a synthesis of consensus estimates on human-caused global warming](#) examines a large number past public opinion surveys, and surveys of various pools of technical and policy experts, including climate scientists publishing in peer-reviewed literature. The surveys analyzed represent a diverse array of sampling techniques and framing of the definition of consensus. The range of survey results varies from as low as 40% to over 90%.

The study concludes this variation results from the conflation of *general* scientific opinion with *expert* scientific opinion. The degree of consensus is strongly affected by the degree of specific expertise in climate science.

Read More: [Phys.org](#), [The Hill](#)

Grant Opportunity Alerts

Keywords and Areas Included in Grant Opportunity Alerts:

NSF: Tectonics; US Ignite: Networking Research and Application Prototypes Leading to Smart & Connected Communities

NIH: Mentored Research Scientist Development Award (Parent K01); NIH Pathway to Independence Award (Parent K99/R00); Improved Technologies and Ligands for Non-invasive Brain Imaging (R41/R42); NEI Research Grant for Vision Related Secondary Data Analysis (R21); NIH Director's New Innovator Award Program (DP2)

Department of Defense/US Army/DARPA/ONR: Multidisciplinary Research Program of the University Research Initiative

NASA: ROSES 2016: Heliophysics Data Environment Enhancements

Grant Opportunities

National Science Foundation

Grant Program: Tectonics

Agency: National Science Foundation NSF 16-556

RFP Website: <http://www.nsf.gov/pubs/2016/nsf16556/nsf16556.htm>

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

Because understanding continental deformation commonly requires a variety of expertise and methods, the Program supports investigations that engage a wide variety of disciplines. The program encourages the application of new methods from all fields to tectonic problems. Because of its integrative and commonly interdisciplinary nature, the science supported by the Program may bridge programmatic boundaries with other programs in the Earth Sciences Division and Geosciences Directorate, in which case such research projects may be considered for co-review with those other programs. For example, research proposals addressing deeper mantle processes (those operating below the lithosphere-asthenosphere boundary) that affect continental lithosphere deformation may be jointly considered by Tectonics and Geophysics Programs. Projects involving both the terrestrial and marine realms may be jointly considered by the Tectonics and the Marine Geology and Geophysics Programs. As per the NSF Grant Proposal Guide, proposals may be transferred to other programs within EAR or to other Divisions within the National Science Foundation when it is deemed appropriate by Program Officers from the respective programs or divisions. Principal Investigators are encouraged to contact the cognizant program officers regarding proposals that may cross disciplinary boundaries before submission.

The Tectonics Program is committed to supporting the most meritorious research in any relevant area in single- or multi-institution proposals, including interdisciplinary and multidisciplinary research, as well as research involving international collaboration. The Program is especially interested in proposals in emerging fields. Proposals for community workshops that can guide the program on new research topics and grand challenge questions are encouraged. All proposals for the RAPID and EAGER mechanisms, as described in the Grant Proposal Guide, must be discussed with one of the Program Directors before submission.

Awards: Anticipated funding is \$9,250,000, annually. The estimated number of awards is 40 to 50 standard or continuing grants per year.

Letter of Intent: Not Required.

Full Proposal Deadlines: June 08, 2016

Contacts:

- David M. Fountain, Program Director, 785 N, telephone: (703) 292-4751, fax: (703) 292-9025, email: dfountain@nsf.gov
- Stephen S. Harlan, Program Director, 785 N, telephone: (703) 292-7707, fax: (703)292-9025, email: sharlan@nsf.gov

Grant Program: US Ignite: Networking Research and Application Prototypes Leading to Smart & Connected Communities

Agency: National Science Foundation NSF 16-553

RFP Website: <http://www.nsf.gov/pubs/2016/nsf16553/nsf16553.htm>

Brief Description: US Ignite is an initiative that seeks to promote US leadership in the development and deployment of next-generation gigabit applications with the potential for significant societal impact. The primary goal of US Ignite is to break a fundamental deadlock: there is insufficient investment in gigabit applications that can take advantage of advanced network infrastructure because such end-to-end infrastructure is rare and geographically dispersed. And conversely, there is a lack of broad availability of advanced broadband infrastructure for open experimentation and innovation because there are few advanced applications and services to justify it. US Ignite aims to break this deadlock by providing incentives for imagining, prototyping, and developing gigabit applications that address national priorities, and by leveraging and extending this network testbed across US college/university campuses and cities.

This solicitation builds on the experience and community infrastructure gained from initial US Ignite activities to further engage the US academic research and non-profit communities along with local cities, municipalities, and regions in exploring the challenges of developing and applying next-generation networking to problems of significant public interest and benefit. In particular, this solicitation has two focus areas: the first encourages the development of application ideas and prototypes addressing national priority areas that explore new uses for high-speed networks and give rise to the Smart & Connected Communities of the future, as well as novel networking and application paradigms; and the second pursues fundamental research advances in networking technology and protocols that will further both the capabilities and our understanding of gigabit networking infrastructure to meet current and future application demands. In 2016, NSF is also working with the U.S. Department of Justice (DOJ) Office for Access to Justice (ATJ) to identify additional application ideas and prototypes and basic research directions that may serve national priority areas of mutual interest.

Awards: Focus Area 1 proposals may request up to \$600,000 for up to three years. Focus Area 2 proposals may request up to \$1,000,000 for up to three years. Anticipated Funding Amount: \$10,000,000

Letter of Intent: Not Required

Full Proposal Submission Due Date: June 14, 2016

Contacts:

- Jack Brassil, Program Director, CISE/CNS, telephone: (703) 292-8041, email: jbrassil@nsf.gov
 - Bruce Kramer, Program Director, ENG/CMMI, telephone: (703) 292-5348, email: bkramer@nsf.gov
 - Wendy Nilsen, Program Director, CISE/IIS, telephone: (703) 292-2568, email: wnilsen@nsf.gov
-

National Institutes of Health

Grant Program: Mentored Research Scientist Development Award (Parent K01)

Agency: National Institutes of Health PA-16-190

RFP Website: <http://grants.nih.gov/grants/guide/pa-files/PA-16-190.html>

Brief Description: The overall goal of the NIH Research Career Development program is to help ensure that a diverse pool of highly trained scientists is available in appropriate scientific disciplines to address the Nation's biomedical, behavioral, and clinical research needs. In addition to this opportunity, NIH Institutes and Centers (ICs) support a variety of other mentored career development programs designed to foster the transition of new investigators to research independence. These other programs may be more suitable for particular candidates. NIH also supports non-mentored career development programs for independent investigators. More information about Career programs may be found at the [NIH Extramural Training Mechanisms](#) website.

The objective of the NIH Mentored Research Scientist Development Award (K01) is to provide salary and research support for a sustained period of “protected time” (3-5 years) for intensive research career development under the guidance of an experienced mentor, or sponsor, in the biomedical, behavioral or clinical sciences leading to research independence. The expectation is that, through this sustained period of research career development and training, awardees will launch independent research careers and become competitive for new research project grant (e.g., R01) funding.

Although all of the participating NIH Institutes and Centers (ICs) use this mechanism to support career development experiences that lead to research independence, some ICs use the K01 award for individuals who propose to train in a new field or for individuals who have had a hiatus in their research career because of illness or pressing family circumstances. Other ICs utilize the K01 award to increase research workforce diversity by providing enhanced research career development opportunities..

Awards: Award budgets are composed of salary and other program-related expenses, as described below.

Letter of Intent: Not Required.

Deadline: [Standard dates](#) apply, with the first due date on June 12, 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 these dates.

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

Grant Program: NIH Pathway to Independence Award (Parent K99/R00)**Agency: National Institutes of Health PA-16-193****RFP Website:** <http://grants.nih.gov/grants/guide/pa-files/PA-16-193.html>

Brief Description: The overall goal of the NIH Research Career Development program is to help ensure that a diverse pool of highly trained scientists is available in appropriate scientific disciplines to address the Nation's biomedical, behavioral, and clinical research needs. In addition to this opportunity, NIH Institutes and Centers (ICs) support a variety of other mentored career development programs designed to foster the transition of new investigators to research independence. These other programs may be more suitable for particular candidates. NIH also supports non-mentored career development programs for independent investigators. More information about Career programs may be found at the [NIH Extramural Training Mechanisms](#) website.

The objective of the NIH Pathway to Independence Award (K99/R00) is to help outstanding postdoctoral researchers with a research and/or clinical doctorate degree complete needed, mentored career development and transition in a timely manner to independent, tenure-track or equivalent faculty positions (see Eligible Individuals for additional detail). The K99/R00 award is intended to foster the development of a creative, independent research program that will be competitive for subsequent independent funding and that will help advance the mission of the NIH. Applicants must have no more than 4 years of postdoctoral research experience at the time of the initial or the subsequent resubmission or revision application. The K99/R00 award is intended for individuals with significant research experience, but who require at least 12 months of mentored research training and career development (K99 phase) before transitioning to the R00 award phase of the program. Consequently, the strongest applicants will require, and will propose, a well-conceived plan for 1–2 years of substantive mentored research training and career development that will help them become competitive candidates for tenure-track faculty positions and prepare them to launch robust, independent research programs. *An individual who cannot provide a compelling rationale for at least one year of additional mentored research training at the time of award is not a strong candidate for this award.*

Individuals must be in mentored, postdoctoral training positions to be eligible to apply to the K99/R00 program. If an applicant achieves independence (any faculty or non-mentored research position) before a K99 award is made, neither the K99, nor the R00 award, will be made.

The K99/R00 award will provide up to 5 years of support in two phases. The initial (K99) phase will provide support for up to 2 years of mentored postdoctoral research training and career development. The second (R00) phase will provide up to 3 years of independent research support, which is contingent on satisfactory progress during the K99 phase and an approved, independent, tenure-track (or equivalent) faculty position. The two award phases are intended to be continuous in time. Therefore, although exceptions may be possible in limited circumstances, R00 awards will generally only be made to those K99 PDs/PIs who accept independent, tenure-track (or equivalent) faculty positions by the end of the K99 award period.

Awards: Award budgets are composed of salary and other program-related expenses, as described below.

Letter of Intent: Not Required.

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

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

Grant Program: Improved Technologies and Ligands for Non-invasive Brain Imaging (R41/R42)

Agency: National Institutes of Health RFA-DA-17-010

RFP Website: <http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-17-010.html>

Brief Description: The proposed STTR concept will support small business efforts that address challenges in the realm of brain imaging including: 1. the further development and commercialization of in vivo imaging technologies, 2. the development of ligands or imaging technologies to enable visualization of latent or replicating HIV viruses within the brain, 3. the development of imaging ligands for visualizing changes in receptors or other brain proteins relevant to substance abuse and co-occurring psychiatric disorders (e.g., anxiety, depression), 4. the development of imaging ligands for visualizing neuronal and/or glial retrograde/signaling molecules (e.g., glutamine, anandamide).

Small businesses interested in the development of relevant innovative technologies are encouraged to apply via the [SBIR mechanism](#) (R43/R44) with this initiative. Applicants are encouraged to contact NIH Scientific/Research staff for more detailed guidance.

Specific Areas of Research Interest

This initiative will support small business development of research-enabling tools, technologies, or products such as (but not limited to):

- The development of new or improved ligands for imaging brain structure and function, including for neuronal or glial retrograde/signaling molecules, neurotransmitters and associated receptors, metabolites, proteins, and/or other molecules
- The development of ligands for visualizing replicating or latent HIV in the brain
- The development of ligands targeting specific glial cells (e.g., oligodendrocytes, astrocytes, microglia) or markers for state of activation (e.g., resting vs. activated microglia)
- The development and optimization of ligands for the detection of epigenomic or epitranscriptomic readers, writers, and erasers that function in the brain and/or in HIV regulation
- The development of new or improved MRI protocols for chemical imaging (e.g., MRS)
- The development of new or improved software (e.g., MR sequence), devices, or analytical tools for imaging brain structure and function or for identification of latent or replicating viruses in the brain

The development of improved software or devices for non-invasive imaging in the service of diagnosis and monitoring treatment of SUDs, pain, or HIV/AIDS.

Awards: According to statutory guidelines, total funding support (direct costs, indirect costs, fee) normally may not exceed \$150,000 for Phase I awards and \$1,000,000 for Phase II awards. With appropriate justification from the applicant, Congress will allow awards to exceed these amounts by up to 50% (\$225,000 for Phase I and \$1,500,000 for Phase II).

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

Deadline: August 17, 2016, 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: NEI Research Grant for Vision Related Secondary Data Analysis (R21)

Agency: National Institutes of Health PAR-16-168

RFP Website: <http://grants.nih.gov/grants/guide/pa-files/PAR-16-168.html>

Brief Description: The goal of this funding opportunity announcement (FOA) is to fund meritorious vision related research projects that involve secondary data analyses using existing

database resources. The development of statistical methodology necessary for improving methods to analyze vision health data using existing vision data may also be proposed.

Research Objectives

The NEI supports an extensive portfolio of clinical trials and large-scale epidemiologic research project wherein numerous data collection activities are required to meet each project's specific aims. The resultant wealth of data generated by these studies often provides unique, cost-effective opportunities to pursue new questions.

This FOA may be used to develop new statistical methodologies or to test new hypotheses using existing data. This FOA actively encourages the use of existing database resources to conduct additional analyses secondary to a project's originally-intended primary purpose; it will not support the collection of new data.

This FOA supports secondary data analysis on existing data sets. A typical project is expected to make substantial progress towards having vision related manuscript(s) submitted in peer reviewed journals within the first year.

Data sets are not limited to those collected under NEI support but these data sets are of the highest programmatic interest. Applicants should consider the relevance of their proposed analyses to NEI programs and priorities as described in the National Plan for Eye and Vision Research, which is available at <http://www.nei.nih.gov>.

Awards: The combined budget for direct costs for the two-year project period may not exceed \$275,000. No more than \$200,000 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.

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

Agency: National Institutes of Health RFA-RM-16-004

RFP Website: <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-16-004.html>

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

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

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

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

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

Letter of Intent: Not required.

Deadline: September 9, 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.

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

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

Department of Defense/US Army/DARPA/ONR

Grant Program: Multidisciplinary Research Program of the University Research Initiative

Agency: DoD Office of Naval Research and US Army N00014-16-R-FO05

FY17 ARMY SUBMISSION: Multidisciplinary Research Program of the University Research Initiative

RFP Website: <http://www.onr.navy.mil/~media/Files/Funding-Announcements/BAA/2016/N00014-16-R-FO05.ashx>

US Army: <http://www.arl.army.mil/www/default.cfm?page=8>

Brief Description: The Department of Defense (DoD) Multidisciplinary University Research Initiative (MURI), one element of the University Research Initiative (URI), is sponsored by the DoD research offices. Those offices include the Office of Naval Research (ONR), the Army Research Office (ARO), and the Air Force Office of Scientific Research (AFOSR) (hereafter collectively referred to as "DoD agencies").

DOD's MURI program addresses high risk basic research and attempts to understand or achieve something that has never been done before. The program was initiated over 25 years ago and it has regularly produced significant scientific breakthroughs with far reaching consequences to the fields of science, economic growth, and revolutionary new military technologies. Key to the program's success is the close management of the MURI projects by Service program officers and their active role in providing research guidance.

The MURI program supports basic research in science and engineering at U.S. institutions of higher education (hereafter referred to as "universities") that is of potential interest to DoD. The program is focused on multidisciplinary research efforts where more than one traditional

discipline interacts to provide rapid advances in scientific areas of interest to the DoD. As defined in the DoD Financial Management Regulation:

Basic research is systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind. It includes all scientific study and experimentation directed toward increasing fundamental knowledge and understanding in those fields of the physical, engineering, environmental, and life sciences related to long-term national security needs. It is farsighted high payoff research that provides the basis for technological progress (DoD 7000.14-R, vol. 2B, chap. 5, para. 050201.B). DoD's basic research program invests broadly in many specific fields to ensure that it has early cognizance of new scientific knowledge.

The FY 2017 MURI competition is for the topics listed below. Detailed descriptions of the topics and the Topic Chief for each can be found in Section VIII, entitled, "Specific MURI Topics," of this FOA. The detailed descriptions are intended to provide the offeror a frame of reference and are not meant to be restrictive to the possible approaches to achieving the goals of the topic and the program. Innovative ideas.

Awards: Various

Deadline: White Papers: 01 Aug 2016 (Monday) 11:59 Eastern Daylight Time Full Proposals: 15 Nov 2016 (Tuesday) 11:59 Eastern Standard Time

Agency contact:

Dr. Ellen Livingston

MURI Program Manager

Office of Naval Research, Code 03R

E-mail Address: ellen.s.livingston@navy.mil

NASA

Grant Program: ROSES 2016: Heliophysics Data Environment Enhancements

Agency: NASA NNH16ZDA001N-HDEE

RFP Website:

<https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={ACD6AE D2-8029-1CE7-A8EA-438DF26413EA}&path=init>

Brief Description: This ROSES NRA (NNH16ZDA001N) solicits basic and applied research in support of NASA's Science Mission Directorate (SMD). This NRA covers all aspects of basic and applied supporting research and technology in space and Earth sciences, including, but not limited to: theory, modeling, and analysis of SMD science data; aircraft, scientific balloon, sounding rocket, International Space Station, CubeSat and suborbital reusable launch vehicle investigations; development of experiment techniques suitable for future SMD space missions; development of concepts for future SMD space missions; development of advanced technologies relevant to SMD missions; development of techniques for and the laboratory analysis of both extraterrestrial samples returned by spacecraft, as well as terrestrial samples that support or otherwise help verify observations from SMD Earth system science missions; determination of atomic and composition parameters needed to analyze space data, as well as returned samples from the Earth or space; Earth surface observations and field campaigns that support SMD science missions; development of integrated Earth system models; development of systems for applying Earth science research data to societal needs; and development of applied information systems applicable to SMD objectives and data. Awards range from under \$100K per year for focused, limited efforts (e.g., data analysis) to more than \$1M per year for extensive activities

(e.g., development of specialized science experimental hardware). The funds available for awards in each program element offered in this NRA range from less than one to several million dollars, which allow selection from a few to as many as several dozen proposals, depending on the program objectives and the submission of proposals of merit. Awards will be made as grants, cooperative agreements, contracts, and inter- or intraagency transfers, depending on the nature of the work proposed, the proposing organization, and/or program requirements. The typical period of performance for an award is three years, but some programs may allow up to five years and others specify shorter periods. Organizations of every type, domestic and foreign, Government and private, for profit and not-for-profit, may submit proposals without restriction on teaming arrangements. Note that it is NASA policy that all investigations involving non-U.S. organizations will be conducted on the basis of no exchange of funds. Electronic submission of proposals is required by the respective due dates for each program element and must be submitted by an authorized official of the proposing organization. Electronic proposals may be submitted via the NASA proposal data system NSPIRES or via Grants.gov. Every organization that intends to submit a proposal in response to this ROSES NRA must be registered with NSPIRES; organizations that intend to submit proposals via Grants.gov must be registered with Grants.gov, in addition to being registered with NSPIRES. Such registration must identify the authorized organizational representative(s) who will submit the electronic proposal. All principal investigators and other participants (e.g., co-investigators) must be registered in NSPIRES regardless of submission system. Potential proposers and proposing organizations are urged to access the system(s) well in advance of the proposal due date(s) of interest to familiarize themselves with its structure and enter the requested information. Details of the solicited programs are given in the Appendices of this ROSES NRA. Names, due dates, and links for the individual calls are given in Tables 2 and 3 of this ROSES NRA. Interested proposers should monitor <http://nspires.nasaprs.com/> or subscribe to the electronic notification system there for additional new programs or amendments to this ROSES NRA through February 2017, at which time release of a subsequent ROSES NRA is planned. A web archive (and RSS feed) for amendments, clarifications, and corrections to this ROSES NRA will be available at: <http://nasascience.nasa.gov/researchers/sara/grant-solicitations/roses-2016/> Frequently asked questions about ROSES-2016 will be on the web at <http://science.nasa.gov/researchers/sara/faqs/>. Further information about specific program elements may be obtained from the individual Program Officers listed in the Summary of Key Information for each program element in the Appendices of this ROSES NRA and at <http://science.nasa.gov/researchers/sara/program-officers-list/>. Questions concerning general ROSES NRA policies and procedures may be directed to Max Bernstein, Lead for Research, Science Mission Directorate, at sara@nasa.gov

Award: \$275K - \$550K

Letter of Intent: The Program is using a mandatory two-step proposal submission process. The overall description of a two-step process can be found in Section IV. (b) vii of the ROSES-2016 *Summary of Solicitation*. A Step-1 proposal is required and must be submitted electronically by the Authorized Organizational Representative (AOR). The five-page Step-1 proposal must present the proposed concept based on the Scope of Solicitation from Section 2.

After review of submitted Step-1 proposals and decisions by the selecting official, a subset of the proposers will be invited to submit Step-2 proposals. Only those who are invited to submit a Step-2 proposal will be able to do so.

Proposal Deadline: Step 1 Proposal: May 20, 2016
