

NJIT Research Newsletter

Issue: ORN-2016-013

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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: James Calvin (PI)

Department: Computer Science

Grant/Contract Project Title: Optimization Algorithms for Decision Problems with Many Variables

Funding Agency: Dept. of Fisheries, Canada

Duration: 08/15/16-07/31/19

PI: Louis Lanzerotti (PI) and Andrew Gerrard (Co-PI)

Department: Center for Solar-Terrestrial Research

Grant/Contract Project Title: Extended Efforts for the Advanced Composition Explorer (ACE) Phase E - MO&DA for the ULEIS and EPAM Instruments

Funding Agency: NASA

Duration: 00/01/15-09/30/16

PI: Somenath Mitra (PI)

Department: Chemistry and Environmental Sciences

Grant/Contract Project Title: Novel algae based multifunctional biomaterials for the removal of heavy metals from water

Funding Agency: Rutgers NJWRI

Duration: 03/21/16-02/28/17

PI: Alexander Kosovichev (PI)

Department: Physics

Grant/Contract Project Title: Characterization of Sunquake Signatures in Terms of Energy and Momentum, and Their Relationship with the Flare Impulsive Phase

Funding Agency: NASA

Duration: 03/26/16-12/31/17

PI: Haimin Wang (PI), Yan Xu (Co-PI)
Department: Center for Solar-Terrestrial Research
Grant/Contract Project Title: Study of Flare Footpoint Emissions Using Advanced Observing Tools
Funding Agency: NASA
Duration: 03/01/16-02/28/17

PI: Layek Abdel-Malek (PI)
Department: Mechanical and Industrial Engineering
Grant/Contract Project Title: Logistical, Manufacturing and Warehousing Analysis for NAVAIR - Capstone Project
Funding Agency: NCASE
Duration: 03/29/16-09/30/17

PI: William Marshall (PI)
Department: NJIT
Grant/Contract Project Title: Life Cycle Assessment of Technologies and Systems for Armament Recapitalization (Ultra Radio Systems) (PATRIOT)
Funding Agency: US Army
Duration: 09/16/14-09/16/17

PI: Layek Abdel-Malek (PI)
Department: Mechanical and Industrial Engineering
Grant/Contract Project Title: Logistical, Manufacturing and Warehousing Analysis for NAVAIR - Capstone Project
Funding Agency: NCASE
Duration: 03/29/16-09/30/17

PI: Simeone Osvaldo (PI)
Department: Electrical and Computer Engineering
Grant/Contract Project Title: The Information Bottleneck Method in Multiterminal Communications and Inference (TINCOIN)
Funding Agency: Vienna University
Duration: 01/01/13-07/01/16

PI: James Hobrook (PI)
Department: Humanities
Grant/Contract Project Title: EESE: Graduate Virtue Ethics Education in Science and Engineering
Funding Agency: NSF
Duration: 09/01/15-08/31/16

PI: James Hobrook (PI)
Department: Humanities
Grant/Contract Project Title: EAGER: Research on the Broader Impacts of Basic Science: Gauging the State of the Art
Funding Agency: NSF
Duration: 09/01/15-08/31/16

Events and Announcements

Event: NSF Webinar: The next frontier of Massive Galaxies and Quasars at Cosmic Dawn

When: April 6, 2016: 2.00 PM – 3.00 PM

Where: http://www.nsf.gov/events/event_summ.jsp?cntn_id=138128&org=NSF

Abstract: I will discuss recent progress in cosmological hydrodynamic simulations of galaxy formation at unprecedented volumes and resolution. I will focus on predictions for the first quasars and their host galaxies and their contribution to reionization from the BlueTides simulation. BlueTides is a uniquely large volume and high resolution simulation of the high redshift universe: with 0.7 trillion particles in a volume half a gigaparsec on a side. This is the first simulation large enough to resolve the relevant scales relevant to the formation of the first large galaxies and quasars. These massive objects at high redshifts will be investigated with the next generation telescopes (Euclid, JWST and WFIRST).

Speaker Bio: TIZIANA DI MATTEO is a Professor in the McWilliams Center for Cosmology of the Physics Department at Carnegie Mellon University. She received her PhD in 1998 at Cambridge University, UK and prior to coming to Carnegie Mellon she was a Chandra Fellow at Harvard and a junior faculty member at the Max Planck Institute for Astrophysics in Germany. Di Matteo is a theorist with expertise in both high energy astrophysics and cosmology. Her interests focus on state-of-the-art cosmological simulations of galaxy formation with special emphasis on modeling the impact of black holes on structure formation in the Universe. Her research makes extensive use of high-performance computing. Di Matteo became a Fellow of the American Physical Society in 2014, she is the recipient of a Pittsburgh Foundation fellowship, and 2008 Award for Excellence from the Carnegie Science Center. Among other national committees, she has served on the Blue Waters Science and Engineering Team Advisory Committee, NSD XSEDE Allocation Committee, NASA Chandra User Committee and she is a member of the LSST Dark Energy Science Collaboration.

Register: Please register at

<https://nsf.webex.com/nsf/j.php?RGID=r509cf66731d9b4827d08c07496c25b4b>
by 11:59pm EST on Tuesday, April 5, 2016.

Event: IEEE Spectrum Webinar: Charged Particle Tracing Simulations

When: April 7, 2016 3.00 PM-4.00 PM

Where: <http://spectrum.ieee.org/webinar/charged-particle-tracing-simulations>

Brief Description: The Particle Tracing Module extends the functionality of the COMSOL Multiphysics environment for computing the trajectories of ions, electrons, and neutral species in external fields. Particles can be subjected to electric, magnetic, and collisional forces, including bidirectional particle-field interactions. The particles can interact with solids, rarefied background gases, and other particles. This webinar introduces particle tracing for applications such as etching, mass spectrometry, ion optics, and beam physics. The webinar includes a demonstration and will end with a Q&A session.

About the Speakers: Jennifer Segui, Sr. Technical Marketing Engineer, COMSOL

As a Sr. Technical Marketing Engineer at COMSOL, Jennifer Segui writes and produces demos, presentations, articles, and documentation showcasing the capabilities available across the entire COMSOL® Product Suite. She is also the Program co-Chair for the COMSOL Conference in Boston. Jennifer has degrees in Medical Physics and Computer Engineering.

Christopher Boucher, Technical Product Manager, COMSOL Boucher is the Technical Product Manager for the Particle Tracing Module and Ray Optics Module. He received his BS degree in Aerospace Engineering and Physics from Worcester Polytechnic Institute (WPI) before joining COMSOL in 2012.

Register at: <http://spectrum.ieee.org/webinar/charged-particle-tracing-simulations>

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>

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: NIH Director's New Innovator Award Program (DP2); NIH Director's Transformative Research Awards (R01); NIH Small Research Grant Program (Parent R03); NIH Exploratory/Developmental Research Grant Program (Parent R21); Partnerships for Countermeasures Against Select Pathogens (R01)

Department of Defense/US Army/DARPA/ONR: Update: Targeted Neuroplasticity Training; Medical Simulation and Information Science

NASA: Research Opportunities in Space Biology (ROSBio) – 2016

Bill and Melinda Gates Foundation: Grand Challenges Explorations

Aetna Foundation: Cultivating Healthy Communities: 2016 Grant Program

American Heart Foundation: Innovative Research Grant

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: dfountai@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: 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 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.

Grant Program: NIH Director's Transformative Research Awards (R01)

Agency: National Institutes of Health RFA-RM-16-007

RFP Website: <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-16-007.html>

Brief Description: The goal of the [NIH Director's Transformative Research Awards](#) initiative is to provide support for collaborative investigative teams or individual scientists who propose unusually innovative research projects, which, if successful, would have a major impact in a

broad area of biomedical or behavioral research. To be considered transformative, projects must have the potential to create or overturn fundamental scientific paradigms through the use of novel approaches, to transform the way research is conducted through the development of novel tools or technologies, or to lead to major improvements in health through the development of highly innovative therapies, diagnostic tools, or preventive strategies. Consistent with this focus, applications supported under the Transformative Research Awards initiative will reflect ideas substantially different from mainstream concepts.

Several key features of this FOA have been designed to emphasize to applicants and peer reviewers that these applications are very different from conventional, investigator-initiated research awards. The application format, through its requirements for explicitly addressing specific issues, focuses attention on the importance of the problem, the novelty of the hypothesis and/or the proposed methodology, and the magnitude of the potential impact rather than on preliminary data or experimental details. Reviewers will be instructed to emphasize significance and innovation in their evaluations, and these criteria will be the primary basis for funding decisions. These features are intended to steer applicants and reviewers, at each step of the process, toward the goal of this initiative, which is to solicit and fund unusually bold and potentially transformative research.

Projects in any area of NIH interest, including basic, clinical, translational and behavioral studies, are encouraged and will be considered responsive to this FOA. Though technical and conceptual risks are expected in highly innovative projects, clinical research also must address potential risk to human subjects. Clinical researchers are encouraged to submit applications as long as rigorous assessment of participant risk/benefit ratios compellingly indicates the ratio to be in favor of the potential benefit. Many of the advances in public health have been achieved through clinical trials, which necessarily involve some risk to participating human subjects. NIH acknowledges the presence of such risk and has established a set of [clinical research ethics principles](#) that provides guidance regarding the risk/benefit ratio in clinical research. **Applicants proposing clinical research should contact Program staff at the [appropriate NIH Institute or Center \(IC\)](#) to ensure that their applications conform to IC-specific policies for clinical research.**

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

Awards: Application budgets are not limited but need to reflect the actual needs of the proposed project. NIH Common Fund intends to commit approximately \$8 million dollars in FY 2017 and make approximately seven awards depending on the size and scope of the most meritorious awards.

Letter of Intent: September 7, 2016

Deadline: October 7, 2016, by 5:00 PM local time of applicant organization. All types of 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.

Grant Program: NIH Small Research Grant Program (Parent R03)**Agency: National Institutes of Health PA-16-162****RFP Website:** <http://grants.nih.gov/grants/guide/pa-files/PA-16-162.html>

Brief Description: The NIH Small Research Grant Program supports discrete, well-defined projects that realistically can be completed in two years and that require limited levels of funding. This program supports different types of projects including, but not limited to, the following:

- Pilot or feasibility studies;
- Secondary analysis of existing data;
- Small, self-contained research projects;
- Development of research methodology; and
- Development of new research technology.

Applications are assigned to participating Institutes and Centers (ICs) based on receipt and referral guidelines and many applications are assigned to multiple participating ICs with related research interests. Applicants are encouraged to identify a participating IC that supports their area of research via the [R03 IC-Specific Scientific Interests and Contact](#) website and contact Scientific/Research staff from relevant ICs to inquire about their interest in supporting the proposed research project.

Applicants should note that some ICs (please see the Related Notices section above) do not accept applications proposing a clinical trial through this funding opportunity announcement. If the proposed research project includes an NIH-defined [clinical trial](#) that would be assigned to one of these ICs, applicants are advised to contact relevant [Scientific/Research staff](#) to discuss alternative mechanisms of support of these studies.

Awards: Application budgets are limited to \$50,000 in direct costs per 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 Exploratory/Developmental Research Grant Program (Parent R21)**Agency: National Institutes of Health PA-16-161****RFP Website:** <http://grants.nih.gov/grants/guide/pa-files/PA-16-161.html>

Brief Description: The evolution and vitality of the biomedical, behavioral, and clinical sciences require a constant infusion of new ideas, techniques, and points of view. These may differ substantially from current thinking or practice and may not yet be supported by substantial preliminary data. Through the NIH Exploratory/Developmental Research Grant Program, the NIH seeks to foster the introduction of novel scientific ideas, model systems, tools, agents, targets, and technologies that have the potential to substantially advance biomedical, behavioral, and clinical research.

This program is intended to encourage new exploratory and developmental research projects. For example, such projects could assess the feasibility of a novel area of investigation or a new experimental system that has the potential to enhance health-related research. Another example could include the unique and innovative use of an existing methodology to explore a new scientific area. These studies may involve considerable risk but may lead to a breakthrough in a particular area, or to the development of novel techniques, agents,

methodologies, models, or applications that could have a major impact on a field of biomedical, behavioral, or clinical research.

Applications for Exploratory/Developmental Research Grant awards should include projects distinct from those supported through the traditional R01 activity code. For example, long-term projects, or projects designed to increase knowledge in a well-established area, are not appropriate for this FOA. Applications submitted to this FOA should be exploratory and novel. These studies should break new ground or extend previous discoveries toward new directions or applications. Projects of limited cost or scope that use widely accepted approaches and methods within well-established fields are better suited for the [NIH Small Research Grant Program](#).

Applications are assigned to participating Institutes and Centers (ICs) based on receipt and referral guidelines and many applications are assigned to multiple participating ICs with related research interests. Applicants are encouraged to identify a participating IC that supports their area of research via the [R21 IC-Specific Scientific Interests and Contact](#) website and contact Scientific/Research staff from relevant ICs to inquire about their interest in supporting the proposed research project.

Applicants should note that some ICs (please see the Related Notices section above) do not accept applications proposing a clinical trial through this funding opportunity announcement. If the proposed research project includes an NIH-defined [clinical trial](#) that would be assigned to one of these ICs, applicants are advised to contact relevant [Scientific/Research staff](#) to discuss alternative mechanisms of support of these studies.

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: Partnerships for Countermeasures Against Select Pathogens (R01)

Agency: National Institutes of Health RFA-AI-16-034

RFP Website: <http://grants.nih.gov/grants/guide/rfa-files/RFA-AI-16-034.html>

Brief Description: The National Institute of Allergy and Infectious Diseases (NIAID) supports extramural research focused on understanding, controlling and preventing diseases caused by virtually all infectious agents. In response to threats presented by emerging infectious diseases, the NIAID Division of Microbiology and Infectious Diseases (DMID) has established research programs to facilitate development of countermeasures for certain pathogens. The purpose of this Funding Opportunity Announcement (FOA) is to solicit research applications for projects focused on preclinical development of lead candidate therapeutics, vaccines, or clinical diagnostics that address select NIAID Emerging Infectious Diseases/Pathogens, as defined below.

For the purpose of this FOA, “lead candidate” is defined as a candidate product, or a collection of optimized products (e.g. lead candidate series), for which proof-of-concept data have been obtained and “preclinical development” is defined as all activities beyond lead candidate identification (therapeutics or vaccines) or assay/platform/prototype development (diagnostics). Examples of supported research areas include: lead optimization; efficacy testing,

safety evaluation; stability testing; manufacturing; development of broad spectrum platforms and/or production technologies; optimization of products or technologies; process development; scale-up; production of quantities sufficient for preclinical regulatory requirements; IND-enabling activities required for initiation of Phase I clinical trials; and diagnostic validation. Priority will be given to projects that address the greatest public health concerns.

Background

The National Institutes of Health (NIH) and other agencies in the Department of Health and Human Services (DHHS) support development of countermeasures to protect the public from infectious diseases. In 2002, the NIH initiated development of strategic plans to counter threats presented by emerging infectious diseases. As a component of these plans, NIAID was assigned responsibility for research leading to and development of candidate countermeasures (therapeutics, vaccines, diagnostics and platform technologies) against a growing list of emerging pathogens. NIAID established the [Partnerships program](#) to support discovery, preclinical research, product development and eventual commercialization of candidate products that address specific pathogens/agents. This FOA reflects current priorities outlined in the NIAID Strategic Plan for Biodefense Research, National Strategy for Combating Antibiotic-Resistant Bacteria (CARB), National Action Plan for Combating Multi-drug Resistant Tuberculosis, HHS Public Health Emergency Medical Countermeasures Enterprise Implementation Plan, the HHS 2010 Medical Countermeasure Review, and Homeland Security Presidential Directive 18: Medical Countermeasures against Weapons of Mass Destruction.

Research Goals, Objectives, and Scope

The objective of this FOA is to support milestone-driven preclinical research that will advance the development and/or production of lead therapeutics, vaccines or medical diagnostics for select Emerging Infectious Diseases/Pathogens described below. Each application must propose a research and development project whose goal is to advance an already identified lead candidate/platform. Proposed projects are not required to result in a "final" product, nor is it necessary to propose completion of the product development process up to the point of readiness for clinical trials or validation within the time frame of the project. Applications that would significantly advance a candidate product toward clinical or field usefulness are responsive and encouraged. Required industrial participation on applications from academic institutions (see below) will facilitate appropriate and validated product development activities. Program Director(s)/Principal Investigator(s) (PD(s)/PI(s)) are strongly encouraged to obtain expertise in the areas of product development planning and target product profile development in general, and regulatory matters in particular. Expertise needed to fulfill project objectives may be retained as defined effort or may be included as periodic consultation on specific issues.

Awards: Budgets for direct costs of up to \$750,000 per year may be requested. Applicants may also request up to an additional \$300,000 in the first year of the award for major equipment to ensure that research objectives can be met and biohazards can be contained, totaling \$1,050,000 direct costs. NIAID intends to commit \$10 million in FY 2017 to fund 10-15 awards.

Letter of Intent: Required by September 3, 2016

Deadline: October 3, 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.

Department of Defense/US Army/DARPA/ONR

Grant Program: Targeted Neuroplasticity Training

Agency: DARPA - Department of Defense DARPA-BAA-16-24

RFP Website:

<https://www.fbo.gov/index?s=opportunity&mode=form&id=5f5fcb0816cfb558ac0b3f595d13a319&tab=core&cvview=0>

Brief Description: DARPA seeks innovative proposals to develop technology for enhancing cognitive skill learning in healthy adults by using noninvasive peripheral neurostimulation to promote synaptic plasticity in the brain. The Targeted Neuroplasticity Training (TNT) program will elucidate the anatomical and functional map of the underlying neural circuitry involved in regulating synaptic plasticity. The program seeks to demonstrate peripheral modulation of the neural circuit, connect neuroplasticity with cognitive improvements, and optimize intervention protocols for long term retention with no side effects.

Awards: Various

Deadline: June 2, 2016.

Agency contact:

Dr. Douglas Weber, Program Manager

BAA Coordinator: DARPA-BAA-16-24@darpa.mil

Grant Program: Medical Simulation and Information Sciences

Agency: US Army - Department of Defense W81XWH-16-R-MSI1

RFP Website:

<https://www.fbo.gov/index?s=opportunity&mode=form&id=0e850a6b11c2b388d9fb2ef82d58a931&tab=core&cvview=0>

Brief Description: Predictive Personality & Emotional State Performance Determinants for Training (PREEMPT) seeks the development of a proof-of-concept task performance assessment tool that incorporates personality and emotional state as determinant components to predict an individual's performance and overall stress level under a wide range of potential combat casualty care scenarios, environments, and other stressful situations relevant to patient care. For this award, it is anticipated that the various components will be integrated for initial testing purposes in a laboratory setting to evaluate how the components work together. The FY16 JPC-1/MSIS PREEMPT is seeking research on two (2) of the several predictors of an individual's performance: personality and emotional state. This knowledge can be used to:• Assess an individual's overall performance and stress levels during combat casualty care scenarios;• Deconstruct overall performance into its personality and emotional state determinants and assess each;• Combine the determinants to predict the person's overall performance on known tasks, especially as it applies to performance under stress. For the purposes of this announcement, personality will be defined as that set of non-physical characteristics which distinguishes one individual from another. For the purposes of this announcement, emotional states are interpretations of complex states that best describe a person's subjective response to a person, thing, or situation. Emotional states indirectly affect behavior. The focus of the research should concentrate on those wishing to become military combat medics, corpsmen, pararescuemen, or special operations combat medics, but could consider other populations that are nearly equivalent. The pilot study should consider an individual's performance compared against currently used standards for military entry within the respective area. If unable to use a standard for military entry, then the applicant should justify the proposed standard that the organization perceives as nearly equivalent, especially if there are data-driven outcomes for

individuals who have trained using standards vs. those who have not. The assessment tool(s) could also potentially be used for sustainment of task performance and overall stress level assessment in refresher / sustainment courses. For completeness, task difficulty needs to be described and defined and, if applicable, evaluation criteria provided with a description of the measurement tool. Task difficulty and conditions should be held constant in the proposed project. In summary, an individual's performance on a task in a specific environment at a moment in time can be specified in terms of the individual's personality, emotional state, and task difficulty. This means that the observed task performance is the final common pathway of the complex interplay of the task determinants. The goal of this program is to identify the personality and emotional state determinants of individual performance in order to determine how to better select the right people for specific tasks in certain scenarios, environments, and stressful situations and how to improve individual performance across tasks and environments.

Awards: Up to \$1,250,000

Deadline: August 22, 2016.

Agency contact:

Jesse Hoffman

jesse.m.hoffman2.civ@mail.mil

Phone: 3016192765

NASA

Grant Program: Research Opportunities in Space Biology (ROSBio) - 2016

Agency: NASA NNH16ZTT001N GL

RFP Website:

<https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={78A2FFEA-172B-3168-8D3D-AA824896833F}&path=open>

Brief Description: This National Aeronautics and Space Administration NRA "Appendix A - GeneLab Innovation Awards for Translational Systems Biology and Informatics Research Using the GeneLab Data System" is an Appendix to the omnibus NASA Research Announcement ROSBio-2016. This NRA solicits research that utilizes the GeneLab Data System to translate spaceflight research data into new knowledge relating to the responses of living systems in the spaceflight environment. Proposals are required to use the GeneLab Data System, on its own, or in combination with other public spaceflight and ground-based omics databases. Proposals are sought that address two specific research emphases: a) Systems Biology Informatics Research Using the GeneLab Data System: Proposals should be designed to develop new computational biology tools that will enable users to perform novel informatics research that enhance the usability and value of GeneLab for all future open science-based investigations. b) Systems Biology Experimental Research Using the GeneLab Data System: Proposals are invited for ground-based hypothesis-driven research investigations that are derived from analyzing the data in the GeneLab Data System. Proposals must translate the spaceflight derived data in the GeneLab database into new knowledge that addresses the objectives of NASA's life sciences missions and contributes new data and information to GeneLab. NASA anticipates that up to 3 awards will be made for the research requested in this NRA and that each grant will last 1-2 years for a total cost of \$250K. Appendix A, which will be released on or about March 24, 2016 can be found by opening the NASA Research Opportunities homepage at <http://nspires.nasaprs.com/> and then linking through the menu listings "Solicitations" to "Open Solicitations." Non-binding notices of Intent (NOIs) are due April 25, 2016 at 5 PM Eastern Time, and full proposals, the technical section of which shall not exceed 15 pages, are due June

28, 2016 at 5 PM Eastern Time. Proposals must be submitted electronically by an authorized official of the proposing organization. Proposers may use either NSPIRES (<http://nspires.nasaprs.com/>) or Grants.gov (<http://www.grants.gov>) for proposal submission. NASA's selection of research projects will be guided by recommendations of the National Research Council's 2011 Decadal Survey Report, "Recapturing a Future for Space Exploration: Life and Physical Sciences Research for a New Era" (<http://www.nap.edu/catalog/13048.html>) All categories of U.S. institutions are eligible to submit proposals in response to this Appendix. Principal Investigators (PIs) may collaborate with investigators from universities, Federal Government laboratories, the private sector, state and local government laboratories and other countries with the exception of China. Every organization that intends to submit a proposal in response to Appendix A must be registered with NSPIRES, and such registration must identify the authorized organizational representative(s) who will submit electronic proposals. Instructions on how to register in NSPIRES are described in the omnibus NRA (ROSBio-2016). Each electronic proposal requires the registration of principal investigators and other participants (e.g. co-investigators). Potential proposers and proposing organizations are urged to access the system(s) well in advance of the proposal due date(s) to familiarize themselves with its structure and enter the requested information. Questions about this ROSBio-2016 and this Appendix may be addressed to the contacts referenced in the full solicitation document. This is a broad agency announcement as specified in FAR 6.102 (d)(2). All awards resulting from selections of proposals to this Appendix and future Appendices will be grants or cooperative agreements. Programmatic information for this NRA is available from: Dr. David L. Tomko, Program Scientist for Space Biology Life and Physical Sciences Division, NASA Headquarters Phone: 202-358-2211 Email: dtomko@nasa.gov NASA contracting information for this NRA is available from: Benjamin S. Benvenuti, Lead Contract Specialist NASA Shared Services Center Email: benjamin.s.benvenuti@nasa.gov Phone: (228) 813-6128

Award: \$250,000 each

Letter of Intent: April 25, 2016

Proposal Deadline: June 28, 2016

Bill and Melinda Gates Foundation

Grant Program: Grand Challenges Explorations

Agency: Bill and Melinda Gates Foundation

RFP Website: <http://gcgh.grandchallenges.org/grant-opportunities>

Brief Description: Grand Challenges Explorations, an initiative to encourage innovative and unconventional global health and development solutions, is accepting grant proposals until **May 11, 2016, 11:30 A.M. US Pacific Day Light Time**. Applicants can be at any experience level; in any discipline; and from any organization, including colleges and universities, government laboratories, research institutions, non-profit organizations, and for-profit companies.

Two-page proposals are being accepted online on the following topics:

- [Assess Family Planning Needs, Preferences and Behaviors to Inform Innovations in Contraceptive Technologies and Services](#)
- [Develop Novel Platforms to Accelerate Contraceptive Drug Discovery](#)
- [Design New Analytics Approaches for Malaria Elimination](#)
- [Accelerate Development of New Therapies for Childhood Cryptosporidium Infection](#)
- [Novel Approaches to Characterizing and Tracking the Global Burden of Antimicrobial Resistance](#)
- [Explore New Solutions in Global Health Priority Areas](#)

Awards: Initial grants will be US \$100,000 each, and projects showing promise will have the opportunity to receive additional funding of up to US \$1 million. Full descriptions of the new topics and application instructions in Chinese, English, French, Portuguese and Spanish are available [here](#).

Deadline: February 18, 2016

For More Information: Please contact Eric Blitz, Associate Director for Development Corporate and Foundation Relations, eric.blitz@njit.edu

Aetna Foundation

Grant Program: Cultivating Healthy Communities: 2016 Grant Program

Agency: Aetna Foundation

RFP Website: <https://www.aetna-foundation.org/content/dam/aetna/pdfs/aetna-foundation/af-cultivating-healthy-communities-rfp.pdf>

Brief Description: Through this RFP, the Aetna Foundation seeks to support communities' efforts to become healthier places to live, work, learn, play and pray. **The Cultivating Healthy Communities program will support projects that benefit underserved, low-income, and minority communities.** We are interested in projects that address the social determinants of health and participants' physical mental, social, and emotional well-being. As the health of a community depends on multiple factors, we seek grantees committed to improving results in **up to two** of the five domains shown below. Applicants also must use one or more of the following indicators within the domain(s) of their choice to measure their program's impact. One of the areas is to improve air and water quality.

Awards: We expect to award up to \$2 million in grants to organizations in the continental United States through this RFP. Applicants can request a total grant amount of either \$50,000 or \$100,000 for the entire project period. Projects can last between 18 and 24 months. Projects must start between August 15, 2016 and October 15, 2016.

Deadline: Stage-1 Application due by April 15, 2016 by 3 p.m. ET

For More Information: Please contact Eric Blitz, Associate Director for Development Corporate and Foundation Relations, eric.blitz@njit.edu

American Heart Foundation

Grant Program: Innovative Research Grant

Agency: American Heart Foundation

RFP Website:

http://professional.heart.org/professional/ResearchPrograms/ApplicationInformation/UCM_321936_Association-wide-Innovative-Research-Grant.jsp

Brief Description: To support highly innovative, high-risk, high-reward research that could ultimately lead to critical discoveries or major advancements that will accelerate the field of cardiovascular and stroke research.

Research deemed innovative may introduce a new paradigm, challenge current paradigms, look at existing problems from new perspectives, or exhibit other uniquely creative qualities. The Innovative Research Grant (IRG) promotes new ideas; therefore, proposals need not include preliminary data. However, a solid rationale for the work must be

provided. Proposed work should not be the next logical step of previous work, but should have a high probability of revealing new avenues of investigation, if successful. This program aims to provide pilot or seed funding that should lead to successful competition for additional funding beyond the pilot period.

Proposals are encouraged from all basic, behavioral, epidemiological, and community and clinical investigations that bear on cardiovascular and stroke problems.

The principal investigator (PI) is responsible for clearly and explicitly articulating the project's innovation and the potential impact on cardiovascular and stroke research

Awards: \$75,000 per year for two years.

Deadline: July 26, 2016

For More Information: Please contact Eric Blitz, Associate Director for Development Corporate and Foundation Relations, eric.blitz@njit.edu
