

NJIT Research Newsletter

Issue: ORN-2017-06

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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Save The Date!

Office of Research Events Calendar: Spring 2017

Research Showcases and Presidential Research Forums:

Event: Inauguration of NJIT Institute of Brain and Neuroscience Research

When: March 6, 2017; 10.00 AM – 2.30 PM

Where: Ballroom A/B/Atrium

Keynote Speaker: Col. Sidney Hinds, MD, DoD Brain Health Research Program Coordinator, Medical Research and Material Command

Event: Panel Discussion: NSF Proposal Preparation and Review: Intellectual Merit and Broader Impact (Details on Page 5)

When: March 7, 2017; 1.00 PM – 3.00 PM

Where: Campus Center Atrium

Panel Speakers:

Dr. Jennifer Slimowitz Pearl, Program Director, Division of Mathematical Sciences (DMS), NSF

Dr. Bernice Anderson, Senior Advisor, Office of Integrative Activities and Program Director- INCLUDES, NSF

Dr. Melvin Hall, Board Member, American Evaluation Association

Event: Faculty Research Showcase and Presidential Forum

When: March 28, 2017; 10.00 AM – 2.30 PM

Where: Ballroom A/B/Gallery

Keynote Speaker: James Gallarda, PhD, Senior Program Officer, Diagnostics at Bill & Melinda Gates Foundation

Event: Innovation Day Symposium and Presidential Forum (Student Research and Innovation Showcase)

When: April 10, 2017; 9.00 AM – 12.00 PM

Where: Ballroom A/B/Atrium

Keynote Speaker: Bill Huffnagle, President, Reconstructive Division at Stryker Orthopaedics

Event: Faculty Research Advisory Board Meeting

When: April 11, 2017; 1.00 PM – 2.00 PM

Where: Ballroom B

Event: Science and Technology Forum: Big Data Analytics: Current and Future Trends

When: April 12, 2017; 1.00 PM – 2.00 PM

Where: Ballroom B

Panel Speaker: Ms. Terry Christiani, Product Marketing Manager, [Microsoft](#)

Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

NSF: (No new posting this week). Tomorrow's Internet Project Office (TIPOFF) Building on the Success of the Global Environment for Network Innovations; Faculty Early Career Development Program (CAREER); Mind, Machine and Motor Nexus (M3X)

NIH: Early Phase Clinical Trials in Imaging and Image-Guided Interventions (R01); NCMRR Early Career Research Award (R03); Data Science Research: Personal Health Libraries for Consumers and Patients (R01)

Department of Defense/US Army/DARPA/ONR: OFFensive Swarm Enabled Tactics (OFFSET); DoD Precision Trauma Care Research Award; 2017 Broad Agency Announcement

Department of Energy: Stewardship Science Academic Alliances (SSAA) Program

NASA: ROSES 2017: Research Opportunities in Space and Earth Science; EARLY CAREER FACULTY (ECF)

National Endowment of Humanities: Digital Humanities Advancement Grants ; Fellowships

Recent Research Grant and Contract Awards

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

PI: Eun Jung Lee (PI)

Department: Biomedical Engineering

Grant/Contract Project Title: CAREER: Engineered Diseased Myocardial Model for Cell-Based Therapy

Funding Agency: NSF

Duration: 03/01/17-02/28/22

PI: Edward Dreyzin (PI)

Department: Chemical, Biological and Pharmaceutical Engineering

Grant/Contract Project Title: Mechanochemical Preparation of Organic Nitro Compounds

Funding Agency: US DoD

Duration: 02/14/17-02/13/18

PI: Roberto Rojas-Cessa (PI)

Department: Electrical and Computer Engineering

Grant/Contract Project Title: Collaborative Research: EAGER: Fusion of Data and Power for a Controllable Delivery Power Grid

Funding Agency: NSF

Duration: 02/14/17-07/31/18

PI: Wen Zhang (PI)

Department: Civil and Environmental Engineering

Grant/Contract Project Title: An Integrated Research and Education on Renovation of a Pilot Scale Water Reuse System for Rug Cleaning Wastewater

Funding Agency: Wells Rug Company

Duration: 02/13/17-08/25/17

In the News...

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

Gene Editing for Human?: The National Academies of Science, Engineering and Medicine has had an ongoing effort to explore the scientific, medical, and ethical considerations of gene editing in view of the revolutionary advances associated with the CRISPER/Cas9 technology. Now, a pre-publication report entitled [*Human Genome Editing: Science, Ethics, and Governance*](#) has been released. Ethicists have been working overtime to figure out how to handle CRISPR, the revolutionary gene-editing technique that could potentially prevent congenital diseases but could also be used for cosmetic enhancements and lead to permanent, [*heritable changes in the human species*](#). The latest iteration of this ongoing CRISPR debate is a [*report published Tuesday*](#) by the National Academy of Sciences and the National Academy of Medicine. The report, a series of guidelines written by 22 experts from multiple countries and a variety of academic specialties, presents a kind of flashing red light for CRISPR.

In view of the fact that clinical trials using edited human somatic cells are already underway and more are already anticipated, the report is intended to provide timely near-term guidance for regulatory and governance bodies. At the core of the ethical issue is the modification of human embryos to create genetic traits that can be passed down to future generations. The report gives cautious support for CRISPER applications that would prevent the propagation of genes known to cause serious diseases and disability if there is no reasonable alternative treatment. More Information on the website http://nationalacademies.org/cs/groups/genesite/documents/webpage/gene_177260.pdf.

Effects of Academic Incubators on University Innovation: US universities have increasingly taken on the challenge of stimulating innovation and moving research results into the commercial sector. This broadened view of the role of universities fills a hole in the national innovation ecosystem, stimulates local economies, and provides much needed revenues for universities. One approach used by many universities has been the establishment of innovation incubators which provide facilities and expert advice for entrepreneurs. Since 2001, 34 such university-affiliated incubators have been established by research intensive universities. Now, a study entitled [*The Effects of Academic Incubators on University Innovation*](#) by Baylor University researchers Kolympriris and Klein has examined the effect of such incubators on the quality of innovation as measured by patent citations and licensing income. They document a negative correlation in both

measures associated with the establishment of these incubators. They argue that such incubators not only fail to achieve clear-cut benefits, they compete for scarce university resources that could be used more effectively. More information is posted on <http://onlinelibrary.wiley.com/doi/10.1002/sej.1242/abstract>.

NASA to Moon and Mars: This was among questions pondered at a House Science Committee **hearing** on NASA's past and future. Harrison H. Schmitt, geologist, former Apollo 17 astronaut and U.S. senator, and adjunct engineering professor, suggested the space agency return to the moon as a good way to prepare for a manned mission to Mars: "Flying to the Moon and working there require similar deep space operational discipline that new generations of space managers, engineers and flight controllers will need to assimilate. When it comes to low Earth orbit and the moon, "the 2020's will be the decade of NASA moving out, and the private sector moving in," she says. In any case, NASA needs to face tough choices, warns former Goddard Spaceflight Center Director Thomas Young, because "there are too many potential paths competing for the available resources." The **hearing** occurred a day before the Senate passed the 2017 **NASA Transition Authorization Act**, which authorizes \$19.5 billion for the space agency. Passage in the House appears likely. Complete bill is posted on the website http://www.cruz.senate.gov/files/documents/Bills/20170215_NASA.pdf.

NSF Announces New Proposal & Awards Policies & Procedures Guide (PAPPG): The new NSF PAPPG provides the policies and procedures for all proposals to be submitted on or after January 30, 2017. The *Proposal & Award Policies & Procedures Guide* (PAPPG) is comprised of documents relating to the Foundation's proposal and award process for the assistance programs of NSF. The PAPPG, in conjunction with NSF's Grant General Conditions, serves as the Foundation's implementation of 2 CFR § 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*. If the PAPPG and NSF Grant Conditions are silent on a specific area covered by 2 CFR § 200, the requirements specified in 2 CFR § 200 must be followed. Please see a summary of changes and complete PAPPG 2017 document on the NSF website https://www.nsf.gov/pubs/policydocs/pappg17_1/index.jsp.

NIH Notice NOT-OD-17-003: Ruth L. Kirschstein National Research Service Awards (NRSA) Postdoctoral Stipends, Training Related Expenses, Institutional Allowance, and Tuition/Fees Effective for Fiscal Year 2017

URL <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-17-003.html>

Related Announcements

[NOT-OD-16-134](#)

[NOT-OD-16-062](#)

National Institutes of Health ([NIH](#))

Purpose: The purpose of this Notice is to announce the process whereby recipients of Kirschstein-NRSA institutional training grant and individual fellowship awards supporting currently active postdoctoral trainees or fellows with 0, 1, or 2 years of experience as of December 1, 2016, will receive increased stipends. The Notice also provides instructions for requesting one-time supplemental funding to cover the stipend increase. As previously announced ([NOT-OD-16-134](#)), stipend levels for postdoctoral NRSA recipients with 0, 1 or 2 years of experience will be increased in furtherance of the NIH mission. This increase is distinct from a projected cost-of-living adjustment for postdoctoral stipends that is subject to the availability of FY 2017 appropriations.

Webinar and Events

Event: NJIT Panel Discussion: Understanding the Role of Evaluation in NSF Proposal Preparation: Broader Impacts, Broader Impacts & Participation for Underrepresented Minorities

When: March 7, 2017, 1.00 PM-2:30 PM

Where: NJIT Campus Center Atrium Newark (also streamed via YouTube live)

Brief Description of the Panel: We are pleased to announce a Panel Discussion event, *Understanding the Role of Evaluation in NSF Proposal Preparation*, sponsored by the Office of Research and Collaborative for Leadership, Education, and Assessment Research (CLEAR) initiative at NJIT. This panel will focus on NSF proposal preparation with respect critical review criteria including boarder impact, intellectual merit and broader participation of women and underrepresented minorities in STEM.

Panel Moderator: Dr. Kevin Belfield, Dean, College of Science and Liberal Arts, NJIT

Panel Speakers:

Dr. Jennifer Slimowitz Pearl, Program Director, Division of Mathematical Sciences (DMS), National Science Foundation

Dr. Bernice Anderson, Senior Advisor, Office of Integrative Activities and Program Director- INCLUDES, National Science Foundation

Dr. Melvin Hall, Board Member, American Evaluation Association

Panel Speaker: Dr. Bernice Anderson

Title of the Talk: “Broader Participation: The NSF initiative to Include Everyone”

This presentation will set the stage by beginning the panel with a discussion of the movement toward broader participation in STEM (especially for women and underrepresented minorities) and how it relates to the new priorities in Broader Impacts.

Speaker Biographical Sketch: Dr. Bernice Anderson is the Executive secretary of the Committee on Equal Opportunities in Science and Engineering (CEOSE) and a Senior Advisor of the NSF Office of Integrative Activities.

Panel Speaker: Dr. Melvin E. Hall

Title of the Talk: “Thinking Evaluatively About Broader Impact and Broadening Participation in STEM: Towards What End?”

This presentation will focus thinking on an outcome goal for broadening participation. In essence to help address the “why” and “so what” questions that may be lurking in the minds of faculty and others who are designing projects that include these expectations. If successful I will plant a seed prompting individual investigators to envision what comes after these efforts are successful.

Speaker Biographical Sketch: Dr. Hall is Professor of Educational Psychology at Northern Arizona University. Dr. Hall completed his B.S., and Ph.D., degrees at the University of Illinois at Urbana Champaign in Social Psychology and Educational Psychology respectively; and M.S. in Counseling at Northern Illinois University. During a forty plus-year professional career in higher education, Dr. Hall has served in four successive appointments, as an academic dean, comprised of positions at Florida Atlantic University, University of California-Irvine, University of Maryland at College Park, and most recently Northern Arizona University (NAU).

Panel Speaker: Dr. Jennifer Slimowitz Pearl

Title of the Talk: “Insights into NSF Broader Impacts By a Program Officer”

Dr. Pearl will discuss how panels view broader impacts and provide examples of broader impacts in successful grants from the perspective of an NSF program director.

Speaker Biographical Sketch: Dr. Pearl is a Program Director in the Division of Mathematical Sciences (DMS) at NSF. Among her responsibilities are the DMS Infrastructure program and activities in the DMS Workforce portfolio. She recently completed a detail assignment serving as the Acting Deputy Division Director in DMS. She also recently served as a Visiting Provost Fellow at George Mason University. She was formerly a Program Director in NSF's Office of International Science and Engineering. Dr. Pearl has held positions at the National Academies and at Rice University. She was an AAAS/NSF Science and Technology Policy Fellow and was awarded a NSF/NATO Postdoctoral Fellowship to conduct research at the Université du Québec à Montréal.

Event: NSF Webinar: Introduction to I-Corps Teams

When: March 7, 2017; 2.00 PM – 4.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=189701&org=NSF

Brief Description: Abstract: Curious about the NSF I-Corps program? Join this monthly introductory webinar to learn more about I-Corps Teams and how they contribute to the innovation ecosystem. During the webinar, I-Corps program directors will answer questions about I-Corps and provide updated information about I-Corps contacts, the [curriculum](#), important dates and other aspects of I-Corps. The I-Corps curriculum provides real-world, hands-on, immersive learning about what it takes to successfully transfer knowledge into products and processes that benefit society.

The webinar will be held the **first Tuesday of every month at 2:00 p.m., eastern time.**

To Join the Webinar: First, access the audio portion of the webinar by phone by calling (800) 857-5210 (for callers inside the U.S.) OR (210) 234-7080 (for callers outside the U.S.). The participant passcode is 3192939#

Second, access the [visual portion](#) of the webinar (WebEx meeting number 743 582 265):

- Go to <https://nsf.webex.com/nsf/j.php?MTID=m37c931eeb5d7a1c32e62c41975c03a2b> [Note: Firefox is recommended for Mac users.]
- If requested, enter your name and email address.
- If a password is required, enter the meeting password: I_C0rp5!
- Click "Join".

You may download the slides in advance--[download the slides](#) (PDF, 1.6 MB).

For assistance joining the meeting, go to <https://nsf.webex.com/nsf/mc> and click "Support" on the left navigation bar.

Note for first-time users: To check whether you have the appropriate players installed for UCF (Universal Communications Format) rich media files, go to <https://nsf.webex.com/nsf/systemdiagnosis.php>.

Grant Opportunities

National Science Foundation

**Grant Program: Tomorrow's Internet Project Office (TIPOFF)
Building on the Success of the Global Environment for Network Innovations**

Agency: National Science Foundation NSF 17-540

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17540/nsf17540.htm>

Brief Description: In order to leverage, advance and strengthen its investments in mid-scale computing research infrastructure, the National Science Foundation's (NSF) Directorate for Computer and Information Science and Engineering (CISE) will support the work of **Tomorrow's Internet Project Office (TIPOFF)**. Working closely with the U.S. academic and industrial computer networking research community, TIPOFF will provide leadership and administrative oversight in developing, deploying and operating innovative mid-scale computing research infrastructure to meet evolving research community needs and align with emerging national priorities.

To initiate this activity, TIPOFF will assume responsibility for the operation and future evolution of the Global Environment for Network Innovations (GENI) platform. TIPOFF will then lead the research community in developing an expanded and enriched experimental platform ("Platform") that leverages the existing GENI infrastructure to support exploration of robust new networking and distributed systems architectures, services and applications. This Platform will serve as a virtual laboratory for research and education, with the goal of advancing understanding of computing and communication systems and sustaining U.S. technology leadership and competitiveness in information technology (IT) and Internet-based services.

Limit on Number of Proposals per Organization: 1: An organization may participate in no more than one TIPOFF proposal submitted to this solicitation, either as a lead or a subawardee. For proposals involving multiple institutions, only one institution should submit the proposal, with funding for participating institutions made through subawards. In other words, joint projects should not be submitted as linked collaborative proposals. See PAPPG Chapter II.D.3.a for additional information.

Awards: Anticipated funding amount: \$10,000,000

Letter of Intent: Not Required

Full Proposal Submission Due Date: May 02, 2017

Contacts:

- Jack Brassil, Program Director, CISE/CNS, telephone: (703) 292-8950, email: jbrassil@nsf.gov Kevin Thompson, Program Director, CISE/ACI, telephone: (703) 292-4220, email: kthomps@nsf.gov

Grant Program: Faculty Early Career Development Program (CAREER) Includes the description of NSF Presidential Early Career Awards for Scientists and Engineers (PECASE)

Agency: National Science Foundation NSF 17-537

RFP Website: <https://www.nsf.gov/pubs/2017/nsf17537/nsf17537.htm>

Brief Description: *CAREER:* The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization. Activities pursued by early-career faculty should build a firm foundation for a lifetime of leadership in integrating education and research. NSF encourages submission of CAREER proposals from early-career faculty at all CAREER-eligible organizations and especially encourages women, members of underrepresented minority groups, and persons with disabilities to apply.

PECASE: Each year NSF selects nominees for the Presidential Early Career Awards for Scientists and Engineers (PECASE) from among the most meritorious recent CAREER awardees. Selection for this award is based on two important criteria: 1) innovative research at the frontiers of science and technology that is relevant to the mission of NSF, and 2) community service demonstrated through scientific leadership, education, or community outreach. These awards foster innovative developments in science and technology, increase awareness of careers in science

and engineering, give recognition to the scientific missions of the participating agencies, enhance connections between fundamental research and national goals, and highlight the importance of science and technology for the Nation's future. Individuals cannot apply for PECASE. These awards are initiated by the participating federal agencies. At NSF, up to twenty nominees for this award are selected each year from among the PECASE-eligible CAREER awardees most likely to become the leaders of academic research and education in the twenty-first century. The White House Office of Science and Technology Policy makes the final selection and announcement of the awardees.

Awards: Standard Grants. Anticipated funding amount: \$222,000,000

Letter of Intent: Not Required

Full Proposal Submission Due Date:

July 19, 2017

Third Wednesday in July, Annually Thereafter

BIO, CISE, EHR

July 20, 2017

Third Thursday in July, Annually Thereafter

ENG

July 21, 2017

Third Friday in July, Annually Thereafter

GEO, MPS, SBE

Contacts:

- Division CAREER contacts listed on the CAREER web page at: <http://www.nsf.gov/crssprgm/career/contacts.jsp>
- Henry A. Warchall, telephone: (703) 292-4861, email: hwarchal@nsf.gov
- See Contacts listing, NSF, telephone: (703) 292-5111, email: info@nsf.gov

Grant Program: Mind, Machine and Motor Nexus (M3X)

Agency: National Science Foundation NSF PD 17-058Y

RFP Website:

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505402&org=NSF&sel_org=NSF&from=fund

Brief Description: The Mind, Machine and Motor Nexus (M3X) program supports fundamental research at the intersection of mind, machine and motor. A distinguishing characteristic of the program is an integrated treatment of human intent, perception, and behavior in interaction with embodied and intelligent engineered systems and as mediated by motor manipulation. M3X projects should advance the holistic analysis of cognition and of embodiment as present in both human and machine elements. This work will encompass not only how mind interacts with motor function in the manipulation of machines, but also how, in turn, machine response and function may shape and influence both mind and motor function.

The M3X program seeks to support the development of theories, representations, and working models that draw upon and contribute to fundamental understanding within and across diverse fields, including but not limited to systems science and engineering; mechatronics; cognitive, behavioral and perceptual sciences; and applied computing. Research funded through this program is expected to lead to new computable theories and to the physical manifestation of these theories.

Application areas supported by the M3X program span the full breadth of the Division of Civil, Mechanical and Manufacturing Innovation. Methodological innovation is emphasized, as is a focus on engaging new and emerging thematic areas.

The M3X program does not support disaggregated, parallel efforts from individual disciplines or investigators: rather, supported activities must strongly integrate across disciplines

to enable discoveries that would not otherwise be possible. Additionally, the M3X program will not consider proposals that do not integrate physical considerations in a fundamental way. Principal investigators proposing pure artificial intelligence or pure machine learning research are referred to funding opportunities in the Directorate for Computer and Information Science and Engineering.

Awards: Standard Grants.

Letter of Intent: Not Required

Full Proposal Submission Due Date: September 1, 2017 - September 15, 2017

Contacts: Jordan M. Berg jberg@nsf.gov (703) 292-5365

National Institutes of Health

Grant Program: Early Phase Clinical Trials in Imaging and Image-Guided Interventions (R01)

Agency: National Institutes of Health PAR-17-167

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-167.html>

Brief Description: NCI has invested significant resources in imaging, both to understand cancer biology and to improve clinical management of cancer patients. This investment has stimulated considerable research activity in the fields of new imaging devices, imaging agent development, and image-guided intervention (IGI), systems, methodologies, and therapies. For example, investigators are developing interleukin-2 radiopharmaceuticals known to detect organ infiltrating T cells in human autoimmune diseases, a new PET imaging diagnostic assay to evaluate how well Sarcoma/Abelson tyrosine kinase inhibitors target tumors inside patients, and leveraging sophisticated computer vision, image analysis, computer assisted diagnostic and deformable registration tools to improve the delineation of tumors for targeted laser ablation therapy via multi-parametric MRI. In addition, researchers are also focused on novel uses of clinical imaging technologies to meet the needs of medical oncologists. Molecular and functional imaging methods, for instance, are being investigated to provide clinicians with a better understanding of the effects of a given treatment and at time-points early enough to impact treatment selection and overall management. This early understanding of the effects of a given therapy or intervention could potentially allow clinicians to switch to more effective treatments saving patients from untoward side effects or death, saving both lives and resources. Today, there are many new approaches in cancer imaging and IGI at the preclinical stage of development that need to be optimized and validated in a clinical setting to determine their impact upon tumor diagnosis, staging, intervention, therapeutic response monitoring, and surveillance. These preliminary clinical studies would serve a number of societal interests in improved cancer care in the general population as well as better serving underserved populations.

Despite these discoveries and opportunities, the incorporation of advanced imaging and IGI techniques into clinical trials remains difficult, not in-pace with clinical need, and under supported. Therefore, the purpose of this initiative is to promote the use of advanced imaging and provide the necessary support for the assessment of imaging modalities, methodologies, and agents as well as IGI methods through the early stages of clinical evaluation in both the general and underserved populations.

The goal of this FOA is to promote and accelerate clinical evaluation of imaging modalities, agents, methods, and image-guided interventions to improve cancer management. Therefore, projects that propose Phase I or early Phase II studies of imaging agents and methodologies, or feasibility studies of imaging devices, image-guided surgery or therapies, image-guided radiation therapy using external beams and/or systemic radionuclides, should show that the anticipated preliminary data will be able to justify a future grant application for confirmatory Phase II or

Phase III trial. A range of trials at different stages of development are allowed, including first in human Phase I and II single-site or multi-site studies based on conventional or adaptive trial designs (if economically feasible). The early studies should provide important initial information regarding imaging investigations (e.g. safety, tolerability, dosing). Later-stage studies should yield data that allow clear go/no-go decisions regarding whether these imaging investigations or image-guided interventions should proceed to an efficacy trial. Applicants may, for example, propose to conduct a clinical trial where the primary aim is to:

- Evaluate and optimize the dose, safety, tolerability or pharmacokinetics of an imaging agent or intervention in a target population.
- Produce sufficient evidence of short-term activity (e.g., imaging biomarker activity, pharmacodynamic response, target engagement, dose-response trends) in a human proof of concept trial.
- Select or rank the best of two or more potential imaging interventions, technologies, or dosing regimens to be evaluated in a subsequent trial, based on tolerability, safety data, biological activity, or preliminary clinical efficacy (e.g., a futility trial.)
- Conduct exploratory IND studies with less preclinical toxicity data or less micro-dosing of investigational agents than usually required for traditional first in human studies to improve the trial design and efficiency in subsequent trials. See FDA's website for information regarding [FDA's Exploratory IND Guidance](#) document.

If proven successful, these investigations can then be validated in larger studies through competitive R01 FOAs, or through clinical trials in the Specialized Programs of Research Excellence (SPOREs), Cancer Centers, and/or the NCI's National Clinical Trials Network program.

Awards: Application budget should reflect the actual needs of the proposed project and is limited to \$500,000 in direct costs for the total project period. No more than \$250,000 in direct costs may be requested in any single year.

Letter of Intent: 30 days before the application due date.

Deadline: June 28, 2017; October 11, 2017; February 14, 2018, June 28, 2018; October 11, 2018; February 14, 2019; June 28, 2019; October 11, 2019; February 14, 2020, 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: NCMRR Early Career Research Award (R03)

Agency: National Institutes of Health PAR-17-161

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-161.html>

Brief Description: The NCMRR Early Career Research (ECR) Award is different from other NIH R03 programs, including the Parent Announcement. It is restricted to clinical and basic scientists who are in the early stages of their independent career in rehabilitation research. The research should be focused on one or more of the areas within the biomedical and behavioral mission of NCMRR: pathophysiology and management of chronically injured nervous and musculoskeletal systems; repair and recovery of motor and cognitive function; functional plasticity, adaptation, and windows of opportunity for rehabilitation interventions; rehabilitative strategies involving pharmaceutical, stimulation, neuroengineering approaches, exercise, motor training, and behavioral modifications; pediatric rehabilitation; secondary conditions associated with chronic disabilities; improved diagnosis, assessment, and outcome measures; and development of orthotics, prosthetics, and other assistive technologies and devices. The expected outcome from

projects funded under this mechanism is the acquisition of necessary preliminary data for a subsequent research project grant (R01) application.

The proposed project may or may not be hypothesis-driven since the goal is to collect the necessary preliminary data sufficient to apply for an R01 grant. The project may aid in the formulation of hypotheses and may be milestone-driven or descriptive in scope. Given that the goal is to collect preliminary data, R03 projects may be less immediately impactful or significant compared to the typical R01. It is not an expectation that this R03 project will likely "move the field forward" at this stage.

Preliminary data are not required. However, the applicant PD/PI should have sufficient information to give confidence to the reviewers that the proposed work is feasible and that data derived from the project would likely be suitable as preliminary data for a subsequent R01 application.

Awards: The combined budget for direct costs for the entire project period may not exceed \$200,000. No more than \$100,000 in direct costs may be requested in any single year.

Letter of Intent: Not required.

Deadline: April 21, 2017, March 30, 2018, March 29, 2019, 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: Data Science Research: Personal Health Libraries for Consumers and Patients (R01)

Agency: National Institutes of Health PAR-17-159

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-17-159.html>

Brief Description: Increasingly, consumers and patients have access to a broad and complex array of personal health information that is relevant to the state of their health. Health-related information can come from diverse sources, such as mass media and social networks, health care organizations, government agencies, clinicians, family members and friends. Health-related information also comes in many different formats, such as data from an individual's electronic medical record, family histories and genealogies, data streams from activity trackers, personal genome sequences, articles, videos about diseases and treatments, and public research data sets. It is well known that, while patients discuss personal health decisions and health information with the clinicians from whom they receive care, they also seek health information from other sources that are increasingly digital, and are constantly changing, enriched with new streams of data and new types of data. National biomedical research initiatives are emerging, such as the Precision Medicine Initiative Cohort Program ("All of Us SM" <https://www.nih.gov/research-training/alofus-research-program>) and the Million Veteran Program (<http://www.research.va.gov/MVP/>), that invite citizens to share personal digital health data and biospecimens with researchers. There are also collaborative initiatives such as Patients Like Me © (<https://www.patientslikeme.com/>) wherein patients contribute personal health data for citizen science projects.

To bring the benefits of big data research to consumers and patients, new biomedical informatics and data science approaches are needed, shaped to meet the needs of consumers and patients, whose health literacy, language skills, technical sophistication, education and cultural traditions affect how they find, understand and use personal health information. Novel data science approaches are needed to help individuals at every step, from harvesting to storing to

using data and information in a personal health library. Areas of development suggested below are not meant to limit the scope or creativity of proposed projects.

- Constructing a personal health library: informatics approaches that help a person gather together different types of health data/information/knowledge into a single, searchable resource for personal use, including intelligent mapping tools for vocabulary used to describe elements of the library.
- Managing a personal health information library: novel informatics approaches that make it easy for an average user to expand or remove entries, make notes or corrections, including intelligent tools that alert the user to new information about topics covered in a personal health information library.
- Using a personal health library: data science and informatics approaches that make it easy to find and use the information stored there, including visual tagging, text summarization, graphics translation, knowledge mapping, suggestions for tutorials, analytic and visualization techniques that make the information understandable based on characteristics of the individual user or group.
- Digital librarian/assistant for personal health library: data science and informatics approaches that bring machine intelligence to the management and use of a personal health information library through personalized alerts and suggestions, literacy aids, translators or other approaches, taking into account characteristics of the individual user or group.

Applicants must base their proposed work on an informed profile of the intended users, and, the work should be developed through interaction with the user. The strongest projects will provide approaches that incorporate health data and information from more than one source, such as diagnostic images and links to full-text articles or genome sequence data linked to a family health history. An application should be centered on the problem area being addressed and the intended audience, propose a possible solution that employs novel data science or informatics, and undertake a pilot that will result in evidence of the degree of success and/or needed next steps. Applicants should expect to involve the intended users in their work.

Applicants may propose new tools or extensions to the capabilities of existing open source tools such as personal health record systems, by adding new features or extending capabilities of the tool. In either case, scientific innovation is key. Applicants are encouraged to take advantage of freely available public information resources available from NLM and others, such as [MedLINEPlus](#), [Genetics Home Reference](#), [PUBMED Central](#), Online courses and tutorials.

Applicants should plan to undertake one or more pilots to test their ideas with the intended user group. If pilots focus on a single disease or health condition, applicants should provide assurance that their approach is generalizable to others. Awardees are expected to share the results of their work through publication, and through open source mechanisms for data or resource sharing. The plan for data/resource sharing will be discussed during the initial scientific merit review.

Awards: Up to \$250K direct costs may be requested in any single year.

Letter of Intent: March 31, 2017; February 16, 2018.

Deadline: May 1, 2017; March 19, 2018), by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on these dates.

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

Department of Defense/US Army/DARPA/ONR

Grant Program: OFFensive Swarm Enabled Tactics (OFFSET)

Agency: Defense Advanced Research Projects Agency HR001117S0011

Website:

https://www.fbo.gov/index?s=opportunity&mode=form&id=01149a8a61316a0f94d92088157b3c89&tab=core&_cvview=0

Brief Description: The goal of OFFSET is the design, development, and demonstration of a swarm system architecture “encoded in a realistic game-based environment and embodied in physical swarm autonomous platforms” to advance the innovation, interaction, and integration of novel swarm tactics.

Awards: Various

Full Proposal Deadline: April 3, 2017.

Contact Information: OFFSET@darpa.mil

Grant Program: DoD Precision Trauma Care Research Award

Agency: Department of Defense USAMRAA W81XWH-18-DMRDP-PTCRA

Website: <http://open-grants.insidegov.com/l/48322/DoD-Precision-Trauma-Care-Research-Award-W81XWH-18-DMRDP-PTCRA>

Brief Description: In support of the Precision Medicine Initiative¹, the OASD(HA) identified “precision medicine” as a top science and technical priority for the FY17 DHP RDT&E funds (this is also applicable to FY18 DHP RDT&E funds) and directed DHA to increase the use of “big data” and interdisciplinary approaches, establish a fundamental understanding of military disease and injury, and advance health status assessment, diagnosis, and treatment tailored to individual Service members and beneficiaries. For this Program Announcement/Funding Opportunity, precision medicine is defined as “an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle for each person.”² Precision medicine pioneers a new model of patient-powered research that aims to accelerate biomedical discoveries and provide clinicians with new tools, knowledge, and approaches to select more accurate treatment and prevention strategies that will work best for individual patients. The intent of the Precision Trauma Care Research Award (PTCRA) is to support research applying precision medicine concepts to trauma care. In order to improve the care of combat casualties, the JPC-6/CCCRP requires capabilities to more accurately diagnose and treat injuries. In general, the field of trauma care progresses as empirical evidence accumulates. Accumulated evidence supports the reduction of unwarranted practice variability (e.g., protocol-driven care). Reduction in practice variability leads to refinement of protocols through improved diagnostic and prognostic indicators that account for patient-specific variables such as injury pattern, comorbidities, demographics, and morphometric data. These approaches are further refined by incorporation of near-term patient-specific variables such as injury progression, response to interventions, and theranostic indicators. The result is a precision medicine approach for trauma care that drives application of interventions to improve outcomes following trauma. The JPC-6/CCCRP seeks to develop precision medicine approaches for trauma care in the most challenging of environments, including point-of-injury care on the battlefield, deployed healthcare facilities such as casualty collection points, forward surgical teams, and combat support hospitals. This challenge of diverse combat environments and medical capabilities also requires research to develop new solutions to include support for medical providers in the assessment, diagnosis, and treatment of military trauma in out-of-hospital settings (point of injury, austere environment, or

en route care) with limited resources through Role 4.3 Proposed research should consider the entire continuum of trauma care and must be focused on enabling patient-specific interventions and improved outcomes rather than “one size fits all” population-based tools and techniques.

Awards: Various; Estimated Funding Available: \$4,870,000

Department of the Army - USAMRAA posted this science and technology and other R&D cooperative agreement on February 10, 2017. Department of the Army - USAMRAA is awarding 6 cooperative agreements with an estimated funding amount of \$29,200,000 total for DoD Precision Trauma Care Research Award.

Full Proposal Deadline: Applications for this cooperative agreement are due June 15, 2017.

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

Grant Program: 2017 Broad Agency Announcement

Agency: Department of Defense W912HZ-17-BAA-01

Website: <http://open-grants.insidegov.com/l/48307/2017-Broad-Agency-Announcement-W912HZ-17-BAA-01>

Brief Description: The U.S. Army Engineer Research and Development Center (ERDC) has issued a Broad Agency Announcement (BAA) for various research and development topic areas. The U.S. Army Engineer Research and Development Center (ERDC) includes the Coastal and Hydraulics Lab (CHL), the Geotechnical and Structures Lab (GSL), the Reachback Operations Center (UROC), the Environmental Lab (EL) and the Information Technology Lab (ITL) in Vicksburg, Mississippi, the Cold Regions Research and Engineering Lab (CRREL) in Hanover, New Hampshire, the Construction Engineering Research Lab (CERL) in Champaign, Illinois, and the Geospatial Research Laboratory (GRL) in Alexandria, Virginia. The ERDC is responsible for conducting research in the broad fields of hydraulics, dredging, coastal engineering, instrumentation, oceanography, remote sensing, geotechnical engineering, earthquake engineering, soil effects, vehicle mobility, self-contained munitions, military engineering, geophysics, pavements, protective structures, aquatic plants, water quality, dredged material, treatment of hazardous waste, wetlands, physical/mechanical/ chemical properties of snow and other frozen precipitation, infrastructure and environmental issues for installations, computer science, telecommunications management, energy, facilities maintenance, materials and structures, engineering processes, environmental processes, land and heritage conservation, and ecological processes. This research is conducted by Government personnel and by contract with educational institutions, non-profit organizations and private industries.

Awards: Various

Full Proposal Deadline: This cooperative agreement was posted on February 09, 2017 and applications are due on January 31, 2018. You can still apply for this opportunity! See the section below for steps to apply.

Contact Information: Michael Lee; Contract Specialist; Phone 601-634-3903;
michael.g.lee@usace.army.mil

Department of Energy

Grant Program: Stewardship Science Academic Alliances (SSAA) Program

**Agency: Department of Energy Advanced Research Projects Agency Energy
DE-FOA-0001634**

Website: <http://open-grants.insidegov.com/l/48138/Stewardship-Science-Academic-Alliances-SSAA-Program-DE-FOA-0001634>

Brief Description: The Stewardship Science Academic Alliances (SSAA) Program was established in 2002 to support state-of-the-art research at U.S. academic institutions in areas of fundamental physical science and technology of relevance to the SSP mission. The SSAA Program provides the research experience necessary to maintain a cadre of trained scientists at U.S. universities to meet the nation's current and future SSP needs, with a focus on those areas not supported by other federal agencies. It supports the DOE/NNSA's priorities both to address the workforce specific needs in science, technology, engineering, and mathematics and to support the next generation of professionals who will meet those needs.

Awards: Awards may vary between \$1 to \$3 million. Approximately \$18 million available in total funds.

Deadline: Apr 30, 2017 Applications should be received by April 30, 2017 and not later than 23:59 ET in Grants.gov.

Contact Information: Grants Management Specialist Patricia M. Parrish 505-845-4057 Patricia.Parrish@nnsa.doe.gov

NASA

Grant Program: ROSES 2017: Research Opportunities in Space and Earth Science

Agency: NASA NNH17ZDA001N

Website:

<https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId=%7BE757EF32-60E6-76AE-A276-21A1F8BA96BB%7D&path=open>

Brief Description: This ROSES NRA (NNH17ZDA001N) solicits basic and applied research in support of NASA's Science Mission Directorate (SMD). The 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. Solicitation website <https://nspires.nasaprs.com/external/viewrepositorydocument/cmdocumentid=554057/solicitationId=%7BE757EF32-60E6-76AE-A276-21A1F8BA96BB%7D/viewSolicitationDocument=1/ROSES%202017%20SoS.pdf>

Awards: 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).

Letter of Intent: Contact Program Officer

Full Proposal Deadline: May 15, 2017 to June 01, 2018

Contact: Tsengdar J. Lee, Earth Science Division, Science Mission Directorate, NASA Headquarters, Washington, DC 20546-0001, E-mail: Tsengdar.J.Lee@nasa.gov , Telephone: 202-358-0860

Grant Program: SPACE TECHNOLOGY RESEARCH GRANTS PROGRAM EARLY CAREER FACULTY (ECF)

Agency: NASA NNH17ZOA001N-17ECF-B1

Website:

<https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId=%7BBAF4264B-6D71-F670-F10E-19DB21BC6BBD%7D&path=open>

Brief Description: The STRG Program within STMD is fostering the development of innovative, low-TRL technologies for advanced space systems and space technology. The goal of this lowTRL endeavor is to accelerate the development of groundbreaking, high-risk/high-payoff space technologies, not necessarily directed at a specific mission, to support the future space science and exploration needs of NASA, other government agencies, and the commercial space sector. Such efforts complement the other NASA Mission Directorates' focused technology activities which typically begin at TRL 3 or higher. The starting TRL of the efforts to be funded as a result of this Appendix will be TRL 1 or TRL 2; typical end TRLs will be TRL 2 or TRL 3. See Attachment 2 of the NRA for TRL descriptions.

This Appendix seeks proposals to develop unique, disruptive, or transformational space technologies that have the potential to lead to dramatic improvements at the system level — performance, weight, cost, reliability, operational simplicity, or other figures of merit associated with space flight hardware or missions. Although progress under an award may be incremental, the projected impact at the system level must be substantial and clearly defined. This Appendix does not seek literature searches, survey activities, or incremental enhancements to the current state of the art (SOA).

This Appendix exclusively seeks proposals that are responsive to one of the four topics described in 1.3. Proposals that are not responsive to any of these topics, as specifically described below, will be considered non-compliant and will not be submitted for peer review. NASA anticipates addressing other topics in future ECF and ESI Appendix releases.

The topics described in 1.3 are aligned with NASA's Technology Roadmaps (<http://www.nasa.gov/offices/oct/home/roadmaps/index.html>).

Awards: \$200k per year up to 3 years.

Letter of Intent: March 3, 2017

Full Proposal Deadline: March 31, 2017

Contact: Doris Daou Planetary Science Division Science Mission Directorate NASA Headquarters Washington, DC 20546-0001 Telephone: (202) 358-1686 E-mail: Doris.Daou@nasa.gov

National Endowment of Humanities

Grant Program: Digital Humanities Advancement Grants

Agency: National Endowment of Humanities

Website: <https://www.neh.gov/grants/odh/digital-humanities-advancement-grants>

Brief Description: Digital Humanities Advancement Grants (DHAG) support digital projects throughout their lifecycles, from early start-up phases through implementation and long-term sustainability. Experimentation, reuse, and extensibility are hallmarks of this grant category, leading to innovative work that can scale to enhance research, teaching, and public programming in the humanities.

This program combines the former Digital Humanities Start-Up Grants and Digital Humanities Implementation Grants programs; the combined program is offered twice per year. Proposals are welcome for digital initiatives in any area of the humanities.

Through a special partnership, the Institute of Museum and Library Services (IMLS) anticipates providing additional funding to this program to encourage innovative collaborations between museum or library professionals and humanities professionals to advance preservation of, access to, use of, and engagement with digital collections and services. Through this partnership, IMLS and NEH may jointly fund some DHAG projects that involve collaborations with museums and/or libraries.

Digital Humanities Advancement Grants may involve

- creating or enhancing experimental, computationally-based methods or techniques that contribute to the humanities;
- pursuing scholarship that examines the history, criticism, and philosophy of digital culture and its impact on society, or explores the philosophical or practical implications and impact of digital humanities in specific fields or disciplines; or
- revitalizing and/or recovering existing digital projects that promise to contribute substantively to scholarship, teaching, or public knowledge of the humanities.

Awards: Awards up to \$375,000.

Proposal Deadline: June 06, 2017

Contact: Contact the Office of Digital Humanities (ODH) via e-mail at odh@neh.gov. Applicants wishing to speak to a staff member by telephone should provide in an e-mail message a telephone number and a preferred time to call. Applicants who are deaf or hard of hearing can contact NEH via Federal Relay (TTY users) at 800-877-8399.

Grant Program: Fellowships

Agency: National Endowment of Humanities

Website: <https://www.neh.gov/grants/research/fellowships>

Brief Description: Fellowships support individuals pursuing advanced research that is of value to humanities scholars, general audiences, or both. Recipients usually produce articles, monographs, books, digital materials, archaeological site reports, translations, editions, or other scholarly resources in the humanities. Through NEH-Mellon Fellowships for Digital Publication, the National Endowment for the Humanities and The Andrew W. Mellon Foundation jointly support individual scholars pursuing interpretive research projects that require digital expression and digital publication. To be eligible for this special opportunity, an applicant's plans for digital publication must be essential to the project's research goals. That is, the project must be conceived as digital because the nature of the research and the topics being addressed demand presentation beyond traditional print publication. Successful projects will likely incorporate visual, audio, and/or other multimedia materials or flexible reading pathways that could not be included in traditionally published books, as well as an active distribution plan. Applicants interested in research projects that require digital expression and digital publication are encouraged to apply for [NEH-Mellon Fellowships for Digital Publication](#).

Awards: \$50,400 per Fellowship

Letter of Intent: Not Required

Full Proposal Deadline: April 12, 2017

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