NJIT Research Newsletter

Issue: ORN-2017-14

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/ .

Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

NSF: Tectonics; Mathematical Sciences Research Institutes; Computer and Information Science and Engineering (CISE) Research Initiation Initiative (CRII); Biological and Environmental Interactions of Nanoscale Materials; Program: Ideas Lab: Practical Fully-Connected Quantum Computer Challenge (PFCQC)
NIH: NIH Director's Transformative Research Awards (R01); NIH Director's Pioneer Award Program (DP1); NIH Director's New Innovator Award Program (DP2); NIH Director's Early Independence Awards (DP5); NICHD Exploratory/Developmental Research Grant (R21); NINDS Program Project Grant (P01); Innovative Research in Cancer Nanotechnology (IRCN) (R01); Enhancing Science, Technology, Engineering, and Math Educational Diversity (ESTEEMED) Research Education Experiences (R25)
Department of Defense/US Army/DARPA/ONR: Lifelong Learning Machines (L2M); System Security Integrated Through Hardware and firmware (SSITH); Metamaterial-based Optical System Design (RFI); Army Research Institute for the Behavioral and Social Sciences Broad Agency Announcement for Basic Scientific Research (2017); 2018 Air Force Young Investigator Research Program (YIP); Army Research Laboratory Broad Agency Announcement for Basic and Applied Scientific Research
Department of Energy: Solar Decathlon 2019 Future Planning - Request for Information
NASA: ROSES 2017: Heliophysics Technology and Instrument Development for Science; ROSES 2017: Heliophysics Data Environment Enhancements
National Endowment of Humanities: Research and Development Grants; Digital Humanities Advancement Grants
CISCO: Secure and Private Internet of Things

Recent Research Grant and Contract Awards

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

PI: Qing Liu (PI)
Department: Electrical and Computer Engineering
Grant/Contract Project Title: Enabling Intelligent Security Assessment for HPC Systems via Automated Learning and Data
Funding Agency: Department of Energy
Duration: 04/16/17-11/01/17

PI: Kurt Rohloff (PI)
Department: Cybersecurity Center, Computer Science
Grant/Contract Project Title: RAMPARTS: Rapid Machine-Learning Processing Applications and Reconfigurable Targeting of Security
Funding Agency: Galois, Inc.
Duration: 08/31/16-08/30/17

PI: John Federici (PI)
Department: Physics
Grant/Contract Project Title: NJSGC Summer Bridge Programs - Research in Physics at NJIT - 2017
Funding Agency: NSF
Duration: 02/01/17-12/31/17

PI: Shawn Chester (PI)
Department: Center for Natural Resources Development and Protection
Grant/Contract Project Title: Integrated Experiments and Modeling of Smart Polymeric Gels
Funding Agency: NSF
Duration: 09/01/15-08/31/18

PI: Timothy Franklin (PI) and Donald Sebastian (Co-PI)
Department: NJII-NJIT
Grant/Contract Project Title: NJ MarketShift Phase II
Funding Agency: OEA
Duration: 10/01/16-09/30/17

In the News…

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

ARPA-E Spending Freeze Reported: PoliticoPro reports: "The Energy Department has started withholding money on grants already approved under the agency's Advanced Research Projects Agency-Energy program, according to two sources who track the office closely. . . . [E]ven projects that received initial ARPA-E backing are expected to see their money withheld regardless of whether they meet their milestones because of a 'procurement hold.'" The implication of the article is that the Trump administration - absent final fiscal 2017 spending decisions by Congress - is moving ahead with its proposed budget cuts. Politicopro notes that "ARPA-E . . . has strong support

on Capitol Hill, particularly from Senate energy spending cardinal Sen. Lamar Alexander" (R-Tenn.). More information is posted on the website https://www.politicopro.com/energy/whiteboard/2017/04/sources-does-has-frozen-funds-for-arpa-e-awardees-086521

Trump H-1B Order Could Dampen Universities' Overseas Recruiting: The Chronicle of Higher Education reports President Trump's order this week to "target fraud and abuse in overseas guest-worker programs and increase federal oversight of the H-1B visa program for highly skilled foreigners" could "roil American campuses and their recruitment of international students." Higher education "ranks third behind technology-related occupations as the largest industry sponsor of recipients of H-1B visas," but college administrators are more concerned about "American colleges' recruitment of students from abroad. For many international students, the opportunity to stay in the United States, even temporarily, after graduation and gain work experience is almost as valuable as an American degree itself." Full article is posted on http://www.chronicle.com/article/Trump-s-New-Order-on-Visas/239825

Responsible Research: Twenty-five years ago, the National Academies published a report called Responsible Science: Ensuring the Integrity of the Research, evaluating issues related to research integrity. Since 1992, many different issues relating to scientific misconduct have come to light and the old report needed an upgrade. Fostering Scientific Integrity is an update on the old work, containing "best practices in research and recommends practical options for discouraging and addressing research misconduct and detrimental research practices." Get the report here https://www.nap.edu/catalog/21896/fostering-integrity-in-research

Key GOP Lawmakers Reject Cuts to NIH: Sen. Roy Blunt (R-Mo.) and Rep. Tom Cole (R-Okla.) who chair, respectively, the Senate and House appropriations panels that fund the National Institutes of Health, "will push instead for Congress to increase the institutes' annual $32 billion budget," McClatchy reports . President Trump had sought to slash $1.2 billion in NIH research grants for the remainder of 2017 and asked for a 19 percent decrease in the agency's budget for next year. "We can give you other places to cut," Cole is quoted as saying. AAU's Weekly Wrap-up, meanwhile reports that a bipartisan group of 164 House members has asked appropriators for $8 billion for the National Science Foundation in FY18. "The letter was led by Reps. G.K. Butterfield (D-NC) and David McKinley (R-WV), who also issued a press release. More information is posted on http://www.aau.edu/publications/article.aspx?id=18489

Grants.gov Announces New Online Proposal Submission Protocols/Forms: Legacy PDF Application Package will be phased out in December 31, 2017.

- Applicants will no longer be able to download the older, single PDF application package of forms.
- Applicants can apply for grants using Grants.gov Workspace, which separates the application package into individual forms. Applicants can create a workspace, complete the individual PDF forms, and submit their application workspace package.
- The new online forms interface will be added to Grants.gov and will only be accessible through Workspace in February 2017.
- For any funding opportunities where applicants have downloaded the legacy PDF application package, they will be able to continue to submit that package until March 31, 2018.
- S2S (System-to-System) Submissions will continue to be supported.

For more information about Grants.gov Workspace, please visit our various Workspace resources:

- Grants.gov Workspace Overview
- Grants.gov Workspace Training Video Series
- Grants.gov Community Blog articles on Workspace

More information on Grants.gov workspace is posted on the website https://www.grants.gov/web/grants/applicants/workspace-overview.html. A presentation on Application Release Notes version 15.4 is posted on the website https://www.grants.gov/documents/19/23905/GDG-Applicant_Release_Notes_15.4.pdf

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Webinar and Events

Event: NSF Distinguished Lecture Series in Mathematical and Physical Sciences for FY17: *Skin-Inspired Electronic Materials and Devices*
When: April 24, 2017; 2.00 PM – 3.00 PM
Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=189675&org=NSF
Abstract: Skin is the body's largest organ and is responsible for the transduction of a vast amount of information. This conformable, stretchable and biodegradable material simultaneously collects signals from external stimuli that translate into information such as pressure, pain, and temperature. The development of electronic materials inspired by the complexity of this organ is a tremendous, unrealized challenge. However, the advent of organic-based electronic materials may offer a solution to this longstanding problem. Prof. Bao will describe the design of organic electronic materials to mimic skin functions. These new materials enabled unprecedented performance or functions in medical devices, energy storage, and environmental applications.
Speaker: Prof. Zhenan Bao (Stanford University): Zhenan Bao is a Professor of Chemical Engineering at Stanford University, which she joined in 2004. Prior to that she was a Distinguished Member of Technical Staff at Bell Laboratories from 1995-2004 immediately after receiving her Ph.D. in Chemistry from the University of Chicago. She has over 400 refereed publications and over 60 US patents with a Google Scholar H-Index >110. She pioneered a number of design concepts for organic electronic materials which have enabled flexible electronic circuits and displays. In her recent work, she developed skin-inspired organic electronic materials, which resulted in unprecedented functionality and/or performance in medical, energy, and environmental applications. Professor Bao has been elected to the National Academy of Engineering and the National Academy of Inventors. She is a Fellow of AAAS, ACS, MRS, and SPIE. Among her major awards are: the L'Oreal-UNESCO Award for Women in Science; the ACS Applied Polymer Science Award, ACS Carl Marvel Creative Polymer Chemistry Award, and ACS Cope Scholar Award; the AIChE Acrivos Award in Chemical Engineering Progress; the Royal Society of Chemistry Beilby Medal and Prize; the IUPAC Prize for Creativity in Applied Polymer Science; and an R&D 100 Award. Bao is a co-founder and on the Board of Directors for C3 Nano, a silicon-valley venture-funded startup commercializing flexible transparent electrodes.
Contact: Andrew J. Lovinger, (703) 292-4933, alovinge@nsf.gov

Event: DARPA: BRICS (Biological Robustness in Complex Settings) Part 2 Webinar
When: May 8, 2017; 1.00 PM – 3.00 PM
Website: https://www.fbo.gov/spg/ODA/DARPA/CMO/DARPA-SN-17-36/listing.html
Abstract: DARPA seeks innovative approaches to the development of engineered Forensic Microbial Systems (FMS) that may be deployed in complex environments to create unique microbial signatures for environmental forensics operations. This event will provide critical

information on the program vision, the program objectives, and opportunities associated with the development of an interdisciplinary proposal to respond to the BAA (not yet posted).
Please register: http://events.sa-meetings.com/BRICS2ProposersDay no later than May 3, 2017 at 4:00 PM ET.

Event: NSF CAREER Program Webinar
When: May 22, 2017; 1.00 PM – 3.00 PM
Website:
https://www.nsf.gov/events/event_summ.jsp?cntn_id=191332&WT.mc_id=USNSF_13&WT.mc_ev=click
Abstract: The NSF CAREER Coordinating Committee hosts a webinar to answer participants' questions about development and submission of proposals to the NSF Faculty Early Career Development Program (CAREER). The webinar will give participants the opportunity to interact with members of the NSF CAREER Coordinating Committee in a question-and-answer format. In preparation for the webinar, participants are strongly encouraged to consult material available on-line concerning the CAREER program. In particular, the CAREER program web page has a wealth of current information about the program, including:

- the CAREER program solicitation NSF 17-537;
- frequently asked questions about the CAREER program; and
- slides from a CAREER program overview.

Additionally, there is a video of a live presentation about the CAREER program accessible through the library of videos from a recent NSF Grants Conference.
How to Submit Questions
Participants may submit questions about CAREER proposal development and submission in advance of and during the webinar by sending e-mail to: careerwebinarqs@nsf.gov
Please note that questions requiring determinations of eligibility for the CAREER program will not be addressed during the webinar. Other questions about the CAREER program that are not covered during the webinar should be directed to the appropriate NSF Divisional contact shown on the web page http://www.nsf.gov/crssprgm/career/contacts.jsp .
Please register: https://nsf.webex.com/nsf/onstage/g.php?MTID=e8fb20f0a3f8d98b103b1e32160faee28.

Event: Falling Walls Lab New York Forum
Where: German House, 871 United Nations Plaza, New York
When: September 14, 2017
Brief Description: The German Center for Research and Innovation will be hosting the Falling Walls Lab New York on September 14, 2017. Falling Walls Lab New York is an exciting forum for scientists, innovators and entrepreneurs to present their ideas in 3 minutes with the chance to win a travel grant to participate in the Falling Walls Finale in Berlin on November 8, 2017. Participation is open to bachelor's and master's students, PhD candidates, as well as postdocs, junior researchers from all disciplines and entrepreneurs. Please click here for application details. **Please share this great opportunity by forwarding this call for applications** to anyone you think might have the ideas and skills to showcase their innovative thinking in a public forum. **More Information:** Please visit www.germaninnovation.org or email at events@germaninnovation.org

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Grant Opportunities

National Science Foundation

Grant Program: Tectonics
Agency: National Science Foundation NSF 17-555
RFP Website: https://www.nsf.gov/pubs/2017/nsf17555/nsf17555.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.
Awards: Standard Grants. **Anticipated Funding Amount:** $9,250,000
Letter of Intent: Not Required
Full Proposal Submission Due Date: Proposals Accepted Anytime after July 24, 2017
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

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Grant Program: Mathematical Sciences Research Institutes
Agency: National Science Foundation NSF 17-553
RFP Website: https://www.nsf.gov/pubs/2017/nsf17553/nsf17553.htm
Brief Description: Mathematical Sciences Research Institutes are national resources that aim to advance research in the mathematical sciences through programs supporting discovery and dissemination of knowledge in mathematics and statistics and enhancing connections to related fields in which the mathematical sciences can play important roles. Institute activities help focus the attention of some of the best mathematical minds on problems of particular importance and timeliness. Institutes are also community resources that involve a broad segment of U.S.-based mathematical sciences researchers in their activities. The goals of the Mathematical Sciences Research Institutes program include advancing research in the mathematical sciences, increasing the impact of the mathematical sciences in other disciplines, and expanding the talent base engaged in mathematical research in the United States.
Awards: Continuing Grants; Anticipated Funding Amount: $30,000,000
Letter of Intent: December 14, 2018
Full Proposal Submission Due Date: March 14, 2019
Contacts: Joanna Kania-Bartoszynska, telephone: (703) 292-4881, email: jkaniaba@nsf.gov
Christopher W. Stark, telephone: (703) 292-4869, email: cstark@nsf.gov
Mary Ann Horn, telephone: (703) 292-4879, email: mhorn@nsf.gov

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Grant Program: Computer and Information Science and Engineering (CISE) Research Initiation Initiative (CRII)
Agency: National Science Foundation NSF 17-552
RFP Website:
https://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=504952&ods_key=nsf17552

Brief Description: With the goal of encouraging research independence immediately upon obtaining one's first academic position after receipt of the PhD, the Directorate for Computer and Information Science and Engineering (CISE) will award grants to initiate the course of one's independent research. Understanding the critical role of establishing that independence early in one's career, it is expected that funds will be used to support untenured faculty or research scientists (or equivalent) in their first three years in a primary academic position after the PhD, but not more than a total of five years after completion of their PhD. One may not yet have received any other grants or contracts in the Principal Investigator (PI) role from any department, agency, or institution of the federal government, including from the CAREER program or any other program, post-PhD, regardless of the size of the grant or contract, with certain exceptions noted below. Serving as co-PI, Senior Personnel, Postdoctoral Fellow, or other Fellow does not count against this eligibility rule. Grants, contracts, or gifts from private companies or foundations; state, local, or tribal governments; or universities do not count against this eligibility rule.
It is expected that these funds will allow the new CISE Research Initiation Initiative PI to support one or more graduate students for up to two years. Faculty at undergraduate and two-year institutions may use funds to support undergraduate students, and may use the additional RUI designation (which requires inclusion of a RUI Impact Statement) -- see http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5518 for additional information. In addition, submissions from all institutions may use funds for postdoctoral scholars, travel, and/or research equipment.
Awards: Standard Grants
Letter of Intent: Not Required
Full Proposal Submission Due Date: August 9, 2017
Contacts: Almadena Y. Chtchelkanova achtchel@nsf.gov (703) 292-8910
Ephraim P. Glinert eglinert@nsf.gov (703) 292-8930

Grant Program: Biological and Environmental Interactions of Nanoscale Materials
Agency: National Science Foundation NSF PD 18-1179
RFP Website:
https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505424&org=NSF&sel_org=NSF&from=fund
Brief Description: The **Biological and Environmental Interactions of Nanoscale Materials** program is part of the **Environmental Engineering and Sustainability** cluster, which includes also 1) Environmental Engineering; and 2) Environmental Sustainability.
The goal of the **Biological and Environmental Interactions of Nanoscale Materials** program is to support research to advance fundamental and quantitative understanding of the interactions of biological and environmental media with nanomaterials and nanosystems. Materials of interest include one- to three-dimensional nanostructures, heterogeneous nano-bio hybrid assemblies, and other nanoparticles. Such nanomaterials and systems frequently exhibit novel physical, chemical, and biological behavior in living systems and environmental matrices as compared to the bulk scale. This program supports research that explores the interaction of nanomaterials in biological and environmental media.
Research areas supported by the program include:

- Characterization of interactions at the interfaces between nanomaterials and nanosystems with surrounding biological and environmental media, including both simple nanoparticles and complex and/or heterogeneous composites;

- Development of predictive tools based on the fundamental behavior of nanostructures within biological and ecological matrices to advance cost-effective and environmentally benign processing and engineering solutions over full life material cycles;
- Examining the transport, interaction, and impact of nanostructured materials and nanosystems on biological systems;
- Simulations of nanoparticle behavior at interfaces, in conjunction with experimental comparisons, and new theories and simulation approaches for determining the transport and transformation of nanoparticles in various media.

Research in these areas will enable the design of nanostructured materials and heterogeneous nanosystems with optimal chemical, electronic, photonic, biological, and mechanical properties for their safe handling, management, and utilization.

Innovative proposals outside of these specific interest areas may be considered. However, prior to submission, it is recommended that the PI contact the Program Director to avoid the possibility of the proposal being returned without review.

The duration of unsolicited awards is generally one to three years. The typical award size for the program is $100,000 per year. Proposals requesting a substantially higher amount than this, without prior consultation with the Program Director, may be returned without review.

INFORMATION COMMON TO MOST CBET PROGRAMS

Proposals should address the novelty and/or potentially transformative nature of the proposed work compared to previous work in the field. Also, it is important to address why the proposed work is important in terms of engineering science, as well as to also project the potential impact on society and/or industry of success in the research. The novelty or potentially transformative nature of the research should be included, as a minimum, in the Project Summary of each proposal.

Faculty Early Career Development (CAREER) program proposals are strongly encouraged. Award duration is five years. The submission deadline for Engineering CAREER proposals is in July every year. Please see the CAREER URL here for more information.

Proposals for Conferences, Workshops, and Supplements: PIs are strongly encouraged to discuss their requests with the Program Director before submission of the proposal.

Grants for Rapid Response Research (RAPID) and **EArly-concept Grants for Exploratory Research (EAGER)** are also considered when appropriate. Please note that proposals of these types must be discussed with the program director before submission. Further details are available in the **Proposal and Award Policies and Procedures Guide (PAPPG)** download found here. **Grant Opportunities for Academic Liaison with Industry (GOALI)** proposals that integrate fundamental research with translational results and are consistent with the application areas of interest to each program are also encouraged. Please note that GOALI proposals must be submitted during the annual unsolicited proposal window for each program. More information on GOALI can be found here.

Awards: CBET program mechanisms: CAREER, RAPID and Conference/Workshop
Letter of Intent: Not Required
Full Proposal Submission Due Date: Anytime
Contacts: Nora F. Savage nosavage@nsf.gov 703-292-7949

National Institutes of Health

Grant Program: NIH Director's Transformative Research Awards (R01)
Agency: National Institutes of Health RFA-RM-17-007
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-17-007.html

Brief Description: The goal of the NIH Director's Transformative Research Award 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 Award 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 Award is part of the High-Risk, High-Reward Research program, which also includes the NIH Director's Pioneer Award, the NIH Director's New Innovator Award, and the NIH Director's Early Independence Award. The program is part of the NIH Common Fund, 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.

Awards: Application budgets are not limited but need to reflect the actual needs of the proposed project.

Letter of Intent: Not required.

Deadline: September 15, 2017, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on this date.

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

Grant Program: NIH Director's Pioneer Award Program (DP1)
Agency: National Institutes of Health RFA-RM-17-005
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-17-005.html
Brief Description: The NIH Director's Pioneer Award is part of the High-Risk, High-Reward Research program, which also includes the NIH Director's New Innovator Award, the NIH Director's Transformative Research Award, and the NIH Director's Early Independence Award. The program is part of the NIH Common Fund, 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 significant problems with no clear solution or to seize new opportunities that offer the potential for rapid progress.
To be considered pioneering, the proposed research must reflect ideas substantially different from those being pursued in the investigator's research program or being pursued elsewhere. The Pioneer Award is not intended to expand a current research program's funding in the area of the proposed project. While the research direction may have as its foundation the applicant's prior work and expertise, it cannot be an obvious extension or scale up of a current research enterprise which could be anticipated to be competitive as a new or renewal R01 application. Rather, the proposed project must reflect a fundamental new insight into the potential solution of a problem, which may derive from the development of exceptionally innovative approaches and/or from the posing of radically unconventional hypotheses. Applications for projects that are extensions of ongoing research should not be submitted.

Pioneer awardees are required to commit the major portion (at least 51%) of their research effort to activities supported by the Pioneer Award research project in the first three years of the project period. Effort expended toward teaching, administrative, or clinical duties should not be included in this calculation. Awardees will be allowed to reduce effort to 33% and 25% in the fourth and fifth years, respectively, to help them transition to other sources of support since Pioneer Awards cannot be renewed. Applicants with current research commitments exceeding 49% must provide a detailed explanation describing how their effort on existing grants will be adjusted to permit them to devote the required minimum effort to the Pioneer Award project. Applicants who will not be able to meet this requirement should not submit applications.
Awards: Awards will be for $700,000 Direct Costs per year for up to 5 years.
Letter of Intent: Not required.
Deadline: September 1, 2017, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on this date.
No late applications will be accepted for this Funding Opportunity Announcement.

Grant Program: NIH Director's New Innovator Award Program (DP2)
Agency: National Institutes of Health RFA-RM-17-006
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-17-006.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 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 is part of the High-Risk, High-Reward Research program, which also includes the NIH Director's Pioneer Award, the NIH Director's Transformative Research Award, and the NIH Director's Early Independence Award. The program is part of the NIH Common Fund, 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.

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 8, 2017, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on this date.

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

Grant Program: NIH Director's Early Independence Awards (DP5)
Agency: National Institutes of Health RFA-RM-17-008
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-RM-17-008.html

Brief Description: The NIH Director's Early Independence Awards initiative is funded through the NIH Common Fund, 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 major problems that are especially daunting or to seize new opportunities that offer the potential for rapid progress.

The NIH Director's Early Independence Awards provide an opportunity for exceptional junior scientists to accelerate their entry into an independent research career by forgoing the traditional post-doctoral training period. Though most newly graduated doctoral-level researchers would benefit by post-doctoral training, a small number of outstanding junior investigators would benefit instead by launching directly into an independent research career. For these select investigators, who have established a record of scientific innovation and research productivity and who have demonstrated unusual leadership, drive, and maturity, post-doctoral training would unnecessarily delay their entry into performing independent research. By the end of the award period, the Early Independence investigator is expected to be competitive for

continued funding of his/her research program and for a permanent research-oriented position. The NIH Director's Early Independence Awards also provide an opportunity for institutions to invigorate their research programs by bringing in the fresh perspectives of the awardees that they host.

The NIH recognizes a unique and compelling need to promote diversity in the biomedical, behavioral, clinical and social sciences research workforce. The NIH expects all of its efforts to diversify the workforce to lead to the recruitment of the most talented researchers from all groups; to improve the quality of the educational and training environment; to balance and broaden the perspective in setting research priorities; to improve the ability to recruit subjects from diverse backgrounds into clinical research protocols; and to improve the Nation's capacity to address and eliminate health disparities. Applicant institutions are always encouraged to consider talented researchers from diverse backgrounds underrepresented in biomedical research, including underrepresented racial and ethnic groups, persons with disabilities and women for participation in all NIH-funded research opportunities.

Awards: Awards will be for up to $250,000 in direct costs per year, plus applicable Facilities and Administrative (F&A) costs.

Letter of Intent: August 22, 2017

Deadline: September 22, 2017, by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on this date.

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

Grant Program: NICHD Exploratory/Developmental Research Grant (R21)

Agency: National Institutes of Health PA-17-259

RFP Website: https://grants.nih.gov/grants/guide/pa-files/PA-17-259.html

Brief Description: The NICHD Exploratory/Developmental Grant program supports exploratory and developmental research projects that fall within the NICHD mission by providing support for the early and conceptual stages of these projects. 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.

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 NICHD 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 within the NICHD scientific mission.

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.

Awards: Direct costs are limited to $275,000 over a two-year period, with no more than $200,000 in direct costs allowed 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: NINDS Program Project Grant (P01)
Agency: National Institutes of Health PAR-17-251
RFP Website: https://grants.nih.gov/grants/guide/pa-files/PAR-17-251.html
Brief Description: The National Institute of Neurological Disorders and Stroke's program project grants (PPG) support investigator-initiated research programs, consisting of three or more highly interdependent projects, in which a team of investigators works in a clearly defined area of mutual scientific interest. In a program project, there should be a unifying, well-defined goal or targeted area of research to which each project relates and contributes, thereby producing a synergistic and collaborative research environment that allows each research project to share the creative strengths of the others. The applicants should present a compelling case in support of interrelated projects and collaborating investigators will yield results beyond those achievable if each project were pursued separately and without formal interaction among the participating investigators. The applicants should explain why the program project is required to achieve the proposed research goals, how reaching these goals may transform the field, and why the goals of the component projects cannot be achieved without significant contributions from the other components. Overall, the applicants should demonstrate a clear and compelling case that the component projects require one another and the shared core facilities.

In keeping with its tradition of strong support of investigator-initiated research, the NINDS expects the PPG director to define the integrating theme and to develop the approaches that would be used to accomplish the objectives of the proposed research program. The theme of a program project could be, for example, basic research on regeneration and plasticity in the nervous system or basic and clinical research on a specific disease process; the unifying concept could be a hypothesis concerning the fundamental mechanisms that result in the clinical manifestations of the specific disease process.
Awards: Application budgets are not limited but need to reflect the actual needs of the proposed project.
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: Innovative Research in Cancer Nanotechnology (IRCN) (R01)
Agency: National Institutes of Health PAR-17-240
RFP Website: https://grants.nih.gov/grants/guide/pa-files/PAR-17-240.html
Brief Description: General Expectations for IRCN Projects: IRCN awards are expected to produce **advances in applying nanotechnology to cancer research:** Significant advances are expected in the overall capacity to employ nanotechnology to understand neoplastic diseases. Each proposed IRCN project is expected to generate new fundamental knowledge aiding the development of nanotechnology-based solutions to major problems in cancer-biology and/or oncology. These projects should emphasize fundamental understanding of nanomaterial and/or nanodevice interactions with biological systems, including aspects relevant to the delivery of nanoparticles and/or nanodevices to desired and intended cancer targets *in vivo*. *The innovative*

use of nanotechnology to solve cancer biology/oncology problems is viewed as more significant than innovation in nanotechnology itself (e.g., development of new nanomaterials).

Possible Research Directions: Examples of appropriate research areas are listed below. These examples are not meant to be comprehensive. Additional directions are also encouraged, providing they are consistent with the general expectations stated above.

- Detailed studies and understanding of nanoparticle and nanodevice delivery mechanisms and implications of systemic distribution, including, but not limited to:
- factors affecting endosomal escape of nanoparticles;
- Enhanced Permeability and Retention (EPR) effect;
- comparison of passive vs active targeting;
- evidence of nanomaterial penetration through biological barriers and target organ accumulation with minimal off-target effects;
- Techniques and tools to overcome failure of therapy, including, but not limited to:
- acquired drug resistance;
- presence of circulating tumor cells (CTCs);
- the establishment of metastatic spread;
- Tools and devices aimed specifically at monitoring of the tumor microenvironment, its heterogeneity, and its changes during tumor progression;
- Understanding and refinement of next generation nanosystem design (e.g., bioresponsive and bioactivatable nanomaterials, externally triggered nanoparticles/nanosystems, physiologically triggered nanoparticles/nanosystems);
- Approaches to further understanding and effectiveness of cancer immunotherapies, including, but not limited to:
- vehicles for delivery of vaccines and adjuvants;
- artificial antigen presenting cells;
- tools for post-treatment monitoring of the immune system;
- Technologies suitable for biomarker discovery and screening (e.g., devices that detect and monitor changes in biomarker expression);
- Development of improved multi-biomarker detection and/or diagnostic devices (e.g., fundamental studies of nanomaterial properties that affect sensitivity and specificity of cancer-specific biomarkers);
- Diagnostic nanoparticles/devices that preserve integrity of captured cells and conformation of isolated molecules for downstream activity assays and analyses;
- Technologies for cancer molecular targeting, discovery, and validation (e.g., targeting of signaling pathway members such as mutant KRAS or mTOR);
- Devices and tools capable of penetrating cellular and/or physiological barriers (e.g., blood-brain-barrier, stroma);
- Integration of modeling and simulation approaches that incorporate characterization data on interactions of nanoparticles with the physiological environment to guide rational nanomaterial design.

Awards: Application budgets are limited to $450K in direct costs per year and need to reflect the actual needs of the proposed project.

Letter of Intent: Not required.

Deadline: November 21, 2017; May 23, 2018; November 20, 2018; May 23, 2019, November 21, 2019, May 21, 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: Enhancing Science, Technology, Engineering, and Math Educational Diversity (ESTEEMED) Research Education Experiences (R25)
Agency: National Institutes of Health PAR-17-221
RFP Website: https://grants.nih.gov/grants/guide/pa-files/PAR-17-221.html
Brief Description: The mission of the NIBIB is to improve human health by leading the development and accelerating the application of biomedical technologies. NIBIB is committed to increasing the participation and success of racial and ethnic minorities and other underrepresented populations in engineering and the biological, computational, and physical sciences. To this end, the institute develops and supports programs that enhance the recruitment, retention, training, and career development of underrepresented minorities, people with disabilities, and people from disadvantaged backgrounds across the career continuum into the biomedical workforce. NIBIB's proactive approach to ensuring a diverse and sustainable biomedical workforce is to develop innovative programs that target roadblocks at critical transition points in the biomedical research pipeline that hinder the participation of underrepresented populations. The ESTEEMED program seeks to facilitate the training of students underrepresented in STEM fields, i.e. racial or ethnic minorities and people with disabilities, who intend to focus on NIBIB's mission areas later in their careers.
Need for the Program
Racial and ethnic minorities and persons with disabilities (PWD) are critically underrepresented in the science in engineering fields. The 2017 NSF report "Women, Minorities, and Persons with Disabilities in Science and Engineering" (https://www.nsf.gov/statistics/2017/nsf17310/digest/about-this-report/) indicates that ~38% of the United States resident population aged 18-64 identified as a racial or ethnic minority. However, students from racial and ethnic minorities comprised only ~20% of the students who graduated with a bachelor's degree in a science and engineering field, and only ~8% of these graduated with a doctoral degree. This demonstrates a need for an intervention to encourage more students from underrepresented groups to continue on to doctorate degrees and successful research careers. A 2012 report from the President's Council of Advisors on Science and Technology recommended support of programs to retain underrepresented undergraduate science, technology, engineering and math students as a means to effectively build a diverse and competitive scientific workforce (PCAST Report, 2012).

To accomplish the stated over-arching goal, this FOA will support creative educational activities with a primary focus on:

- ***Research Experiences:*** for undergraduate students to provide preparation for and hands-on exposure to research. At a minimum, this preparation should include a summer bridge program, summer research experience, and additional activities during the academic year, including, but not limited to seminars and/or workshops that enhance skills in the basic sciences, computation, and scientific communication as well as introduce students to the laboratory environment
- ***Mentoring Activities:*** dedicated to providing not only technical expertise, but advice, individual coaching, professional development, and career guidance to the participants. Mentoring should occur at multiple levels ideally involving faculty, peers, alumni, and family. For institutions with graduate degree programs, Ph.D. candidates may also participate as mentors.

Programmatic Approach

The outcomes of an earlier NIBIB contract-based program have emphasized that pre-admission summer bridge programs; strong mentoring by faculty, peers, alumni, and family; community building activities; and early exposure to biomedical research are critical elements for attracting, retaining, and preparing diversity students in STEM fields for subsequent biomedical research careers. Therefore, the NIBIB requires these program elements in the current Funding Opportunity Announcement (FOA).

The program supported by this FOA must contain at least three elements: a summer bridge program that occurs before the start of the freshman year, a program for freshmen and sophomores during the academic year, and a summer research experience after the sophomore academic year. Ideally, at the completion of this program, participants will enter into an independent Honors Program for juniors and seniors at the applicant institution.

1. Summer Bridge Program

The main focus of the Summer Bridge Program is to prepare participants for their first year of college, introduce them to this R25 program, and to provide remedial instruction to participants to bridge gaps in their knowledge. It must take place during the summer before the freshman year, last at least five weeks, and emphasize basic sciences, computation, and science communication. Rising sophomores are encouraged to mentor incoming participants in the Summer Bridge Program in the summer between their freshman and sophomore years.

2. Academic Year Activities

In addition to continuing to emphasize basic sciences, computation, and science communication, the Academic Year Activities should help participants maximize their academic performance and prepare them for summer research experiences and eventual entry into an Advanced Honors Program. Academic year activities should include, but are not limited to, courses, journal clubs, individual development plans for each participant, seminars/workshops, professional development programs, and travel to national meetings. Activities such as workshops on scientific presentation and writing, that promote scientific communication skills, are highly encouraged. There should be an increasing sophistication in these activities as participants proceed from the freshman to the sophomore year.

3. Summer Research Experience

At the end of their sophomore year, each participant is expected to take part in a hands-on summer research experience that involves a defined research project and includes a final oral presentation and written report of their work. This could take place in an on-campus laboratory or be an off-campus research experience for high achieving undergraduate students, such as the National Science Foundation (NSF)-sponsored Research Experience for Undergraduates Summer Programs (REU) program, the Howard Hughes Medical Institute (HHMI)-sponsored Janelia Undergraduate Scholars Program, or an industry internship. The Summer Research Experience is expected to last at least eight weeks or the majority of the summer.

Participants are encouraged to engage in an on- or off-campus summer research experience between the freshman and sophomore year. However, program funds will only be provided for the Summer Research Experience after the sophomore year.

Linkage to Advanced Honors Program

The program to be supported with this Funding Opportunity Announcement (FOA) is intended as a feeder program that prepares participants for entry into an Advanced Honors Program for underrepresented juniors and seniors in STEM fields. This ensures that participants will have a full four years of support throughout their undergraduate education. Applicants are therefore required to describe the feeder program, the existing Advanced Honors Program, and the linkage between the two programs.

Goals of Program, Identification of Evaluation Metrics and Sunset Provisions

- The overarching goal of this FOA is to prepare undergraduate freshman and sophomores from underrepresented backgrounds for Ph.D. or M.D./Ph. D programs. After ten years, the NIBIB will review the overall success of the funded programs to determine whether to continue this FOA as currently configured. The success of a funded program will be evaluated based on specific participant outcomes, including transition into an Advanced Honors Program; graduation with a baccalaureate degree in a STEM field; enrollment into and graduation from a Ph.D. or M.D./Ph. D program; postdoctoral employment; and entry into a biomedical research career in academia or industry.

Research education programs may complement ongoing research training and education occurring at the applicant institution, but the proposed educational experiences must be distinct from those training and education programs currently receiving Federal support. R25 programs may augment institutional research training programs (e.g., T32, T90) but cannot be used to replace or circumvent Ruth L. Kirschstein National Research Service Award (NRSA) programs.

Awards: Application budgets are not limited but need to reflect the actual needs of the proposed project. Student salaries, per participant, for the three components of the program are: $2,000 for the summer bridge experience, $12,000 per academic year for two years, and $4,000 for the summer research experience following the sophomore year.

Limited Submission: Only one application per institution (normally identified by having a unique DUNS number or NIH IPS number) is allowed. The NIH will not accept duplicate or highly overlapping applications under review at the same time. This means that the NIH will not accept:

- A new (A0) application that is submitted before issuance of the summary statement from the review of an overlapping new (A0) or resubmission (A1) application.
- A resubmission (A1) application that is submitted before issuance of the summary statement from the review of the previous new (A0) application.
- An application that has substantial overlap with another application pending appeal of initial peer review (see NOT-OD-11-101).

Please send an email with a summary of the proposal to Vice Provost for Research at dhawan@njit.edu by no later than April 10, 2017, if you intend to submit a proposal. The institutional commitment on the proposal submission will be made by April 12, 2017.

Letter of Intent: April 24, 2017

Deadline: May 24, 2017 by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on 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: Lifelong Learning Machines (L2M)
Agency: Department of Defense DARPA HR001117S0016
Website:
https://www.fbo.gov/index?s=opportunity&mode=form&id=557cc1ffdb7ef3a1a9792a890086c488&tab=core&_cview=0
file:///Users/atamdhawan/Downloads/HR001117S0016.pdf

Brief Description: DARPA is soliciting highly innovative research proposals for the development of fundamentally new machine learning approaches that enable systems to learn continually as they operate and apply previous knowledge to novel situations. Current AI systems only compute with what they have been programmed or trained for in advance; they have no ability to learn

from data input during execution time, and cannot adapt on-line to changes they encounter in real environments. The goal of Lifelong Learning Machines (L2M) is to develop substantially more capable systems that are continually improving and updating from experience.
Awards: Various.
Proposal Deadline:
Proposers Day: March 30, 2017
Abstract Due Date: May 3, 2017 at 1:00PM
FAQ Submission Deadline: June 5, 2017 at 1:00PM
Proposal Due Date: June 21, 2017 at 1:00PM
Contact Information: Dr. Hava Siegelmann, Program Manager
BAA Email: HR001117S0016@darpa.mil

Grant Program: System Security Integrated Through Hardware and firmware (SSITH)
Agency: Department of Defense DARPA HR001117S0023
Website:
https://www.fbo.gov/index?s=opportunity&mode=form&id=ea2550cb0c42eb91c7292377824a58b7&tab=core&_cview=0
Brief Description: The overall goal of the SSITH program is to develop hardware design tools to provide inherent security against hardware vulnerabilities that are exploited through software in DoD and commercial electronic systems. SSITH aims to drive research required to develop secure hardware that constrains the hardware attack surface and protects against classes of software attacks that exploit hardware vulnerabilities.
Awards: Various.
Proposal Deadline: June 5, 2017 at 1:00 PM.
Contact Information: BAA Coordinator HR001117S0023@darpa.mil

Grant Program: Metamaterial-based Optical System Design (RFI)
Agency: Department of Defense DARPA DARPA-SN-17-42
Website:
https://www.fbo.gov/index?s=opportunity&mode=form&id=7284de399f2c403964e09b40295ef039&tab=core&_cview=0
Brief Description: DARPA/DSO is interested in extending the existing vast body of knowledge for classical optical design theory to the new space of metamaterial-based optical design theory and practice. The goal is not to simply reimplement classical optical design with metamaterials, but rather to define an entirely new architectural space that optimally utilizes the unique capabilities of these materials. Interested in responses that can be applied to a broad scope of optical systems. Relevant systems include, but are not limited to, imaging, non-imaging, reflective, refractive, catadioptric, computational imaging systems, etc., operating in the visible and infrared wavebands.
Awards: Various.
Response Deadline: May 22, 2017 4:00 pm Eastern
Contact Information: Dr. Predrag Milojkovic DARPA-SN-17-42@darpa.mil

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Grant Program: Army Research Institute for the Behavioral and Social Sciences Broad Agency Announcement for Basic Scientific Research (2017)
Agency: Department of Defense US Army W911NF-17-S-0007
Website:
https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=ac68e8943e12786c0f680f489ec26fc1
Brief Description: This Broad Agency Announcement (BAA) for the Foundational Science Research Unit (FSRU) of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) solicits new proposals for its fiscal year 2017 program of basic research in behavioral science. It is issued under the provisions of paragraph 6.102(d) (2) and 35.016 of the Federal Acquisition Regulation (FAR), which provides for the acquisition of basic and applied research and that part of development not related to the development of a specific system or hardware procurement through the competitive selection of proposals. Proposals submitted in response to this BAA and selected for award are considered to be the result of full and open competition and in full compliance with the provisions of Public Law 98-369, Section 2701, "The Competition in Contracting Act of 1984" and subsequent amendments.

The U.S. Army Research Institute for the Behavioral and Social Sciences is the Army's lead agency for the conduct of research, development, and analyses for the improvement of Army readiness and performance via research advances and applications of the behavioral and social sciences that address personnel, organization, training, and leader development issues. The basic research program supports research projects that are designed to expand fundamental knowledge and discover general principles in the behavioral and social sciences. In addition to looking for proposals that provide for programmatic efforts to develop and evaluate psychological and behavioral theory, we strongly encourage Applicants to propose novel, state-of-the-art, and multidisciplinary approaches that address difficult problems. A key consideration in the decision to support a research proposal is that its findings are likely to stimulate new, basic behavioral research, which in turn, will lead to improved performance of Army personnel and their units. Proposals may address both traditional behavioral issues as well as psychophysiological (to include neuroscience) and network science approaches to social phenomena, memory, cognition, and personality. ARI cannot support proposals through this BAA that are primarily applied research projects (e.g., human factors studies or training program evaluations) or purely focused on physiology, psychopathology or behavioral health. Collaboration is encouraged among institutions of higher education (IHE's), non-profit organizations, commercial organizations, and the other U.S. Military Services. Funding of basic research proposals within ARI areas of interest will be determined by funding constraints and priorities set during each budget cycle.

A proposal should describe its contribution to theory and how its results might lead to basic behavioral research that would be meaningful to the Army. Those contemplating submission of a proposal are encouraged to submit a White Paper before submitting a full proposal. Submission of a White Paper before a full proposal allows earliest determination of the potential for funding and minimizes the labor and cost associated with the submission of a full proposal that may have minimal probability of being selected for funding. Costs associated with a White Paper or full proposal submission in response to this BAA are not considered allowable direct charges to any resulting award. These costs may be allowable expenses to normal bid and proposal indirect costs specified in FAR 31.205-18. An Applicant submitting a proposal is cautioned that only a Government Contracting or Grants Officer may obligate the Government to any legal instrument involving expenditure of Government funds.
Awards: Contact the program officer.

Proposal Deadline: June 30, 2017
Contact Information: Maria D. Nelson, Contracting Officer
maria.d.nelson.civ@mail.mil , Phone: 9195414992

Grant Program: 2018 Air Force Young Investigator Research Program (YIP)
Agency: Department of Defense Air Force Office of Scientific Research
BAA-AFRL-AFOSR-2017-0002
Website: http://www.wpafb.af.mil/Welcome/Fact-Sheets/Display/Article/842100/#anchor2
Brief Description: The Air Force YIP supports scientists and engineers who have received Ph.D. or equivalent degrees in the last five years and show exceptional ability and promise for conducting basic research. The objective of this program is to foster creative basic research in science and engineering; enhance early career development of outstanding young investigators; and increase opportunities for the young investigator to recognize the Air Force mission and related challenges in science and engineering.

Individual awards are made to U.S. institutions of higher education, industrial laboratories, for-profit businesses, or non-profit research organizations where the principal investigator is a U.S. citizen, national, or permanent resident by 01 October 2017; employed on a full-time basis and holds a permanent position. All PIs and co-PIs must meet all general eligibility requirements and one of the following criteria:(1) Received a Ph.D. or equivalent degree on 1 April 2012 or later; or, (2) Received a Ph.D. or equivalent degree between 1 April 2010 and 1 April 2012, be presently in a tenure-track position and have served as a tenure-track faculty member for no more than two years prior to 01 April 2017. Examples of other interim appointments after receiving Ph.D. include: post-doctoral or research associate positions, serve as active duty service member for the U.S. Armed Forces, or maternity/paternity leave

Awards: Each award will be funded at the $120K level for three years. Exceptional proposals will be considered individually for higher funding levels and longer duration.
Proposal Deadline: Jun 01, 2017 Proposals must be received electronically through Grants.gov by Thursday, 01 Jun 2017 at 11:59 PM Eastern time to be considered. Technical or general pre-proposal inquiries and questions must be received in writing by electronic mail not later than Monday, 01 May 2017 to be considered.
Contact Information: King Nwoha Procurement Analyst Phone 703 6961146
afosryip@us.af.mil

Department of Energy

Grant Program: Solar Decathlon 2019 Future Planning - Request for Information
Agency: Department of Energy DE-FOA-0001753
Website: https://eere-exchange.energy.gov/#FoaId72d17068-b4e5-4694-b1f7-ac3269743b1e
Brief Description: This is a Request for Information (RFI) only.
The Solar Decathlon is a program for collegiate teams to design, build, and operate solar-powered houses that are innovative, energy-efficient, and attractive. It provides participating students with hands-on experience and training. The Solar Decathlon, is open to the public and the next Solar Decathlon will take place October 5-15, 2017, in Denver, Colorado. Since Solar Decathlon's inception in 2002, DOE has continuously sought to refine and improve both the application process and event execution. This RFI seeks information to inform designing, planning and

implementing Solar Decathlon 2019 that is planned to also take place in the Denver area. The goals of this Request for Information (RFI) are twofold:
1. Gather feedback on changes being considered by the Department of Energy to increase the opportunities for team participation and innovation, and
2. Gather feedback on ways DOE can reduce the barriers to entry for participation for university teams.
DOE is specifically interested in feedback regarding changes that would make it easier for universities to compete in the Solar Decathlon while maintaining the ability to hold a large public event that enables the public to experience the innovation in the houses. This is an RFI only.
Document: Request for Information DE-FOA-0001753 - Solar Decathlon 2019 Future Planning - Full Text
Contact Information: solar.decathlon@ee.doe.gov For responses to this Request for Information. Include the RFI number DE-FOA-0001753 in the email Subject line.

- EERE-ExchangeSupport@hq.doe.gov For technical assistance with EERE Exchange.

NASA

Grant Program: ROSES 2017: Heliophysics Technology and Instrument Development for Science
Agency: NASA NNH17ZDA001N-HTIDS
Website:
https://nspires.nasaprs.com/external/solicitations/summary.do?method=init&solId={4A1EA552-8429-A026-C2ED-26ADF5C25D66}&path=open
Brief Description: NASA's heliophysics strategic objective is to understand the Sun and its interactions with the Earth and the solar system, including space weather. In this framework, the Heliophysics Research Program is guided by goals defined in the NASA 2014 Science Plan (available at https://science.nasa.gov/about-us/science-strategy) and the 2013 National Research Council Decadal Strategy for Solar and Space Physics report, Solar and Space Physics: A Science for a Technological Society (www.nap.edu/catalog.php?record_id=13060) and its purpose is to enable achieving these goals, which are: 1. Determine the origins of the Sun's activity and predict the variations in the space environment; 2. Determine the dynamics and coupling of Earth's magnetosphere, ionosphere, and atmosphere and their response to solar and terrestrial inputs; 3. Determine the interaction of the Sun with the solar system and the interstellar medium; 4. Discover and characterize fundamental processes that occur both within the heliosphere and throughout the universe. The Heliophysics Research Program seeks to understand phenomena, on a broad range of spatial and temporal scales, the fundamental processes that drive them, how these processes combine to create space weather events, and to enable a capability for predicting future space weather events. In concert with the other NASA science divisions (Planetary Science, Astrophysics, and Earth Science), the program shares responsibility for learning about the Earth, our solar system, the universe, and their interrelationships.
Awards: Expected Budget: $500k for the first year
Proposal Deadline: HTIDS17 Step-1 Proposals Due May 17, 2017
Contact: Dr. Max Bernstein sara@nasa.gov

Grant Program: ROSES 2017: Heliophysics Data Environment Enhancements
Agency: NASA NNH17ZDA001N-HDEE
Website:
https://nspires.nasaprs.com/external/viewrepositorydocument/cmdocumentid=553740/solicitationId=%7B56DDC86D-A108-5F7C-1968-CD74473AC8F6%7D/viewSolicitationDocument=1/B.7%20HDEE.pdf
Brief Description: The Heliophysics Data Environment Enhancements (H-DEE) program is a component of the Heliophysics Research Program and proposers interested in this program element are encouraged to see the overview of the Heliophysics Research Program in B.1 of this ROSES NRA. The work carried out for this program should be in support of the Heliophysics strategic goals and objectives in NASA's 2014 Strategic Plan and Chapter 4.1 of the NASA 2014 Science Plan (https://science.nasa.gov/about-us/science-strategy). The recommended priorities of the Heliophysics community are also discussed in the National Research Council Decadal Strategy for Solar and Space Physics report, Solar and Space Physics: A Science for a Technological Society (http://www.nap.edu/catalog/13060/solar-andspace-physics-a-science-for-a-technological-society). Note particularly the sections of the Decadal report dealing with the "DRIVE" initiative, more specifically "R" and "I," and the discussion in Appendix B. The H-DEE program encompasses the data environment needs throughout Heliophysics, including Solar, Heliospheric, and Geospace Sciences (Magnetosphere and Ionosphere/Thermosphere/Mesosphere [ITM]). As part of a mission-oriented agency, the Heliophysics Research Program seeks to fund those efforts that directly impact NASA missions or interpretation of their data. Therefore, investigations that are judged to be more appropriate for submission to other Federal agencies, even if of considerable merit, will not be given high priority for funding through this solicitation.
Awards: Expected Budget: $500k for the first year
Proposal Deadline: HDEE17 Step-1 Proposals Due May 17, 2017
Contact: http://nspires.nasaprs.com/ (help desk available at nspires-help@nasaprs.com or (202) 479- 9376)

National Endowment of Humanities

Grant Program: Research and Development Grants
Agency: National Endowment of Humanities
Website: https://www.neh.gov/grants/preservation/research-and-development
Brief Description: The Research and Development program supports projects that address major challenges in preserving or providing access to humanities collections and resources. These challenges include the need to find better ways to preserve materials of critical importance to the nation's cultural heritage—from fragile artifacts and manuscripts to analog recordings and digital assets subject to technological obsolescence—and to develop advanced modes of organizing, searching, discovering, and using such materials. This program recognizes that finding solutions to complex problems often requires forming interdisciplinary project teams, bringing together participants with expertise in the humanities; in preservation; and in information, computer, and natural science.
All projects must demonstrate how advances in preservation and access would benefit the cultural heritage community in supporting humanities research, teaching, or public programming.

Research and Development offers two funding tiers in order to address projects at all stages of development and implementation.

Tier I: Planning and Basic Research

Tier I grants support the following activities:

- planning and preliminary work for large-scale research and development projects; and
- stand-alone basic research projects, such as case studies, experiments, or the development of methods, models, and tools.

Tier II: Advanced Implementation

Tier II grants support projects at a more advanced stage of implementation for the following activities:

- the development of standards, practices, methodologies, or workflows for preserving and creating access to humanities collections; and
- applied research addressing preservation and access issues concerning humanities collections.

Awards: For Planning and Basic Research (Tier I) projects, the maximum award is $75,000 for up to two years. For Advanced Implementation (Tier II) projects, the maximum award is $350,000 for up to three years. Successful applicants will be awarded a grant in outright funds, federal matching funds, or a combination of the two, depending on the applicant's preference and the availability of NEH funds.

Proposal Deadline: June 8, 2017

Contact: Contact the staff of NEH's Division of Preservation and Access at preservation@neh.gov and 202-606-8570. Applicants who are deaf or hard of hearing can contact NEH via Federal Relay (TTY users) at 800-877-8399.

CISCO

Grant Program: Secure and Private Internet of Things

Agency: CISCO RFP-16-04

Website: http://research.cisco.com/research#rfp-201604

Brief Description: Connected IoT devices provide many new opportunities and benefits for manufacturers and consumers. The ubiquitous nature of IoT connectivity enables new use cases in connected manufacturing, connected cars, connected spaces, smart cities and other market verticals. However, the security of IoT has not kept pace with the fast innovation and deployment of solutions creating significant safety and economic risks. The growing number of IoT devices, systems, and services increases the attack surface making the solutions more vulnerable to cyber-attacks. Recent Distributed Denial of Service (DDoS) attacks against Internet service providers and commercial entities were carried out by a diverse network of botnets made up of compromised set-top devices and other consumer products. Therefore, assuring the security of each component within an IoT solution is crucial in keeping malicious actors from using it in an unauthorized manner. In addition, IoT devices enable massive data collection and analysis. The analysis of this data will allow previously unknown relationships between things to be discovered which causes a big concern for the privacy of individuals, businesses (including IP protection), groups, and governments. Since the analysis of data is essential for the value of IoT, strong consideration must be given to data privacy and data protection throughout its lifecycle.

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