

NJIT Research Newsletter

Issue: ORN-2020-34

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** (with links to sections). The Newsletter is posted on the NJIT Research Website <https://research.njit.edu/funding-opportunities> .

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Special Announcements

Update: Streamlyne Proposal Submission System Submission of IRB (Institutional Review Board) and COI (Conflict of Interest) Forms

The Office of Research has implemented **IRB (Institutional Review Board) and COI (Conflict of Interest) modules in Streamlyne Proposal Submission System**. As the system is now functional, **Ms. Deidra Slough, assistant director for research compliance and integrity** will reach out to researchers with requests to complete COI disclosures. If you have questions, Ms. Slough can be reached directly at sloughd@njit.edu.

Appropriate disclosure of COIs is an institutional, state, federal and agency requirement. It is also an integral part of grant management. Following the guidelines from federal agencies and Code of Federal Regulations, failure to properly disclose and manage all COIs may lead to serious consequences including award suspension and legal actions including fines. The research compliance division in the Office of Research will work with faculty and researchers on timely management of COI disclosures to avoid any agency action leading to loss of funding, federal investigations, and questions on research credibility and productivity. The following video link, website information and training session are developed to help faculty and researchers to go through the COI disclosure regulations and protocols.

- [Video walk-through](#)
- [Written guide](#)
- Live training: Monday August 24th at 10 am and at 2pm
<https://njit.webex.com/meet/sloughd>

NJIT Pandemic Recovery Plan

Research Continuity and Phased Recovery Plan

<https://research.njit.edu/njit-pandemic-recovery-plan>

NJIT faculty, staff, and students at research facilities must follow the specific social distancing and safety protocols including the use of personnel protective equipment (PPE) as required by the institutional, state and federal guidelines in the respective phase of the research continuity plan. State and national information regarding current conditions can be found at:

- New Jersey's COVID-19 information hub: <https://covid19.nj.gov/index.html>
- CDC guidelines on "Symptoms of Coronavirus": <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>
- CDC guidelines on "Use of Cloth Face Coverings to Help Slow the Spread of COVID-19": <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html>

The details on NJIT Research Continuity and Phased Recovery Plan and associated protocols are posted on the website <https://research.njit.edu/njit-pandemic-recovery-plan>

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Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

NSF: Focused Research Hubs in Theoretical Physics (FRHTP); National Artificial Intelligence (AI) Research Institutes; Postdoctoral Research Fellowships in Biology (PRFB); Biology Integration Institutes (BII); Harnessing the Data Revolution: Coordination Hub (HDR Central); International Research Experiences for Students (IRES)

NIH: Innovative Research in Cancer Nanotechnology (IRCN) (R01); Cellular and Molecular Biology of Complex Brain Disorders (R21); BRAIN Initiative: Data Archives for the BRAIN Initiative (R24 Emergency Awards: RADx-rad Data Coordination Center (DCC) (U24); Emergency Awards: RADx-rad Wastewater Detection of SARS-COV-2 (COVID-19) (U01); Emergency Awards RADx-

RAD: Novel Biosensing for Screening, Diagnosis and Monitoring of COVID-19 From Skin and The Oral Cavity (Fast-Track STTR)

Department of Defense/US Army/DARPA/ONR: Verified Security and Performance Enhancement of Large Legacy Software (V-SPELLS); DoD Combat Readiness, Rapid Development and Translational Research Award; Defense Sciences Office Office-wide; C4ISR, Information Operations, Cyberspace Operations and Information Technology System Research

Department of Transportation: Advanced Transportation and Congestion Management Technologies Deployment Initiative

Department of Agriculture: NRCS's Regional Conservation Partnership Program; Agriculture and Food Research Initiative - Foundational and Applied Science; REAP-Renewable Energy Systems and Energy Efficiency Improvements

Department of Labor: Supply Chains Tracing Project

Department of Commerce/EDA: STEM Talent Search

EPA: Center for Early Lifestage Vulnerabilities to Environmental Stressors; RFI for Hydrogen and Fuel Cell Technologies Office (HFTO); Environmental Workforce Development and Job Training (EWDJT) Grants

Department of Energy: FY 2021 SBIR/STTR Phase I Release 1; FY 2021 Bioenergy Technologies Office Multi-Topic Request for Information (RFI); Solar Energy Technologies Office Fiscal Year 2020 Perovskite Funding Program; American-Made Solar Prize

NASA: ROSES 2020: Carbon Cycle Science; Cooperative Agreement to establish a Heliophysics Science Center (HSC); ROSES 2020: Science Team for the OCO Missions

National Endowment of Humanities: Humanities Connections

Private Foundations: Activate.Org: Activate Fellowships

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Recent Research Grant and Contract Awards

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

PI: Edward Dreizen (PI)

Department: Chemical and Material Engineering

Grant/Contract Project Title: A URA for Materials Science in Extreme Environments

Funding Agency: U.S. Department of Defense (DTRA)

Duration: 07/01/20-12/31/21

PI: Alexander Kosovichev (PI)

Department: Center for Computational Heliophysics

Grant/Contract Project Title: Regimes in 3D Global Modeling of Solar Interior Dynamics and Magnetic Field Structure (Student Fellow: Andrey Stejko)

Funding Agency: NASA

Duration: 08/05/19-08/14/21

PI: Kamallesh Sirkar (PI)

Department: Chemical and Material Engineering

Grant/Contract Project Title: Purification of IPA by Membrane Distillation

Funding Agency: Entegris, Inc.

Duration: 08/27/20-03/27/21

PI: Piero Armenante (PI)

Department: Chemical and Material Engineering

Grant/Contract Project Title: Colgate Agreement

Funding Agency: Colgate-Palmolive Company

Duration: 08/21/20-08/20/21

PI: Omowunmi Sadik (PI)

Department: Chemistry and Environmental Sciences

Grant/Contract Project Title: Supplement - BREAD PHENO: Development and Field Testing of Paper-based Biosensors to Increase Productivity of Smallholder Agriculture in Developing Countries

Funding Agency: NSF

Duration: 07/01/20-06/30/21

PI: Senjuti Basu Roy (PI)

Department: Computer Science

Grant/Contract Project Title: Human-AI Symbiosis for Agile Planning

Funding Agency: U.S. Department of the Navy (ONR)

Duration: 09/01/18-08/31/21

PI: Boris Khusid (PI)

Department: Chemical and Material Engineering

Grant/Contract Project Title: Advanced Colloids Experiment-Temperature and Gradient Control

Funding Agency: NASA

Duration: 09/01/19-08/31/21

PI: Cody Buntain (PI)

Department: Informatics

Grant/Contract Project Title: Providing Twitter Enterprise Access

Funding Agency: U.S. Department of Commerce (NIST)

Duration: 09/01/20-05/31/21

PI: Haimin Wang (PI), Wenda Cao (Co-PI), Bin Chen (Co-PI), Dale Gary (Co-PI), Vasyl Yurchyshyn (Co-PI), Yan Xu (Co-PI)

Department: Center for Solar Terrestrial Research

Grant/Contract Project Title: Study of Small Scale Magnetic Reconnection and Energy Release in the Source Regions of Solar Wind

Funding Agency: NASA

Duration: 10/0120-09/30/23

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In the News...

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

AI and Quantum Information Science Research Centers: The United States aims to invest \$765 million over the next 5 years in a dozen scientific centers dedicated to the study of artificial intelligence (AI) and quantum information science (QIS), such as quantum computing. Numerous private tech companies such as IBM, Google, and Intel will also contribute to the twin pushes, which call for a total of more than \$1 billion in research investment. Seven of the centers will be based at universities and [focus on various applications of AI](#), which generally involves programming that enables a computer to learn to find useful patterns, such as the most effective moves in a board game. Each center will receive \$20 million over 5 years, assuming Congress approves the funding, with a down payment coming out of funds already approved for this year. Five will receive support from the National Science Foundation (NSF) and two from the U.S. Department of Agriculture's National Institute of Food and Agriculture. Each AI center will focus on a particular application. For example, the University of Oklahoma, Norman, will host NSF's Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography. NSF envisions investing an additional \$300 million in grants to support AI work. The five other centers, to be funded by the Department of Energy (DOE) and located at its national laboratories, will [focus on myriad aspects of QIS](#), including developing testbeds for emerging quantum computers, technologies to establish an essentially unhackable quantum internet, and quantum sensors for various applications.

NSF anticipates making additional AI Research Institute awards in the coming years, with more than \$300 million in total awards, including contributions from partner agencies, expected by next summer. Overall, NSF invests more than \$500 million in artificial intelligence activities annually and is the largest Federal driver of nondefense AI R&D. The NSF solicitation on funding AI institutes is included in the Grant Opportunity section below and also posted on the website <https://www.nsf.gov/pubs/2020/nsf20604/nsf20604.htm>.

STEM Talent Challenge: The U.S. Economic Development Administration (EDA) has announced a new funding opportunity, the STEM Talent Challenge, which will create and implement innovative STEM apprenticeship models (see attached executive summary and NOFO). The STEM Talent Challenge seeks to develop or expand regional workforce capacity to support high-growth, high-wage entrepreneurial ventures, industries of the future which usually includes industries that leverage emerging technologies, and other innovation-driven businesses that have a high likelihood of accelerating economic competitiveness and job creation in their respective region. This competition requests applications from applicants that are creating and implementing STEM talent development strategies that complement their respective region's innovation economy, particularly as they relate to emerging, transformative sectors and future industries such as artificial intelligence and machine learning, advanced manufacturing and robotics, space exploration and commerce, bioscience, quantum information science, and aqua- and agricultural technologies. More information is posted on the website <https://www.eda.gov/oie/stem/> and also included in the Grant Opportunity section below.

Information Technology Modernization Plans: Seven out of 10 agencies outlined information technology modernization plans and described assistance needed from Congress to phase out legacy systems in response to inquiries by Sen. Maggie Hassan, D-N.H.—some in more detail than others. The Defense, Education, Transportation and Homeland Security departments each responded. DHS sent extensive planning materials—more than 100 pages—outlining modernization efforts. The Small Business and Social Security administrations also sent letters back, while the Office of Personnel Management sent prepared testimony from the FITARA scorecard hearing in response. OPM Chief

Information Officer Clare Martorana represented the agency at the hearing. The Health and Human Services, Treasury and Interior departments have yet to reply. SSA, DOD and SBA each confirmed they developed updated solutions, though SBA said it is still in the process of transitioning away from its old system and SSA still has work to do on certain phases of the update. DOD reported its upgrade will save the agency \$19.4 million in sustainment costs.

Education and Transportation both said updates to the systems Hassan addressed directly are pending. Education plans to post a solicitation for the Next Gen Federal Student Aid initiative this fall. Transportation said it will replace System 7, a Federal Aviation Administration registration solution that's name is undisclosed for security reasons, by 2022. More information is posted on the [website](#).

NIST Releases Core Principles to Judge ‘Explainable AI’: National Institute of Standards and Technology scientists carefully crafted and proposed four fundamental tenets for determining precisely how explainable decisions made by artificial intelligence are. The draft publication [released](#) Tuesday—[Four Principles of Explainable Artificial Intelligence](#)—encompasses properties of explainable AI and is “intended to stimulate a conversation about what we should expect of our decision-making devices,” according to the agency. It’s also the latest slice of a much broader effort NIST is steering to promote the production of trustworthy AI systems. NIST’s four principles of explainable AI stress explanation, meaning, accuracy and what authors deem “knowledge limits.” As the agency states, they are:

- AI systems should deliver accompanying evidence or reasons for all their outputs.
- Systems should provide explanations that are meaningful or understandable to individual users.
- The explanation correctly reflects the system’s process for generating the output.
- The system only operates under conditions for which it was designed or when the system reaches a sufficient confidence in its output.

More information is posted on the [website](#).

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Webinar and Events

Event: NSF/VMware Partnership on The Next Generation of Sustainable Digital Infrastructure (NGSDI) Program

Sponsor: NSF

When: August 31, 2020 1.00 PM – 2.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301069&org=NSF

Brief Description: The goal of this joint [solicitation](#) between NSF and VMware is to foster novel, transformative research in fundamental and systematic approaches that bring dramatic increases in the environmental sustainability of the Digital Infrastructure leading to practical methodologies and tools. The Digital Infrastructure is broadly defined as the totality of software, hardware, and the methods for managing them for the purpose of efficient computation. This research includes, but is not limited to, computer software and systems; management of distributed software, the Digital Infrastructure, and data center power sourcing; and resource allocation and scheduling. Critical to initiating such research is to set its objectives through the definition of novel metrics and benchmarks that capture the sustainability challenges of all components in the entire computation chain.

The program also aims to support a research community committed to advancing research and education at the confluence of management technologies for software, hardware and power for Sustainable Digital Infrastructure, and to transition research findings into practice. A new generation of innovation would build on many recent advances such as passive and active measurements, statistical analysis and inference,

learning for automated control and complex optimization, workload isolation and management, agile development, convergence of development and production environments, and architecture-optimized language translation.

To Join the Webinar: Register in advance for this webinar:

https://nsf.zoomgov.com/webinar/register/WN_ytpojw2ET36SOf_owAwBgw

Event: I-Corps Teams Webinar

Sponsor: NSF

When: September 3, 2020 12.00 PM – 1.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301110&org=NSF

Brief Description: Join a monthly NSF Innovation Corps (I-Corps) Teams webinar to learn how to make your technology concept into a product through customer discovery. If you have worked on an NSF grant in the last few years, you may be eligible for the [National I-Corps Teams program](#). Program directors will answer questions and provide updated information about I-Corps contacts, the curriculum and important dates

To Join the Webinar: [Register for the September 3 webinar](#)

Event: Computer and Information Science & Engineering Research Initiation Initiative (CRII) Program Webinar

Sponsor: NSF

When: September 10, 2020 1.00 PM – 2.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301065&org=NSF

Brief Description: Program directors from across CISE will host a 90 minute webinar to provide the CISE community with information about the Computer and Information Science and Engineering (CISE) Research Initiation Initiative (CRII) and answer questions. The solicitation may be found on the NSF website: <https://www.nsf.gov/pubs/2020/nsf20593/nsf20593.htm> The NSF Directorate for Computer and Information Science and Engineering (CISE) seeks to award grants intended to support research independence among early-career academicians who specifically lack access to adequate organizational or other resources. It is expected that funds obtained through this program 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 five years after completion of their PhD.

Importantly, the CRII program seeks to provide essential resources to enable early-career PIs to launch their research careers. For the purposes of this program, CISE defines “essential resources” as sufficient funds for 48 months of graduate student support. A new Department Chair/Head Letter template [<https://nsf.gov/cise/cree/deptchair.pdf>] must be used to affirm PI eligibility. The primary change in the CRII solicitation compared to the previous solicitation is a clearer definition of how this support must be calculated.

To Join the Webinar: To join the webinar, please register at: https://nsf.zoomgov.com/webinar/register/WN_1nTF1KZXRICJ9huZHJ12pQ

Event: Startups and Early Stage Investing Webinar

Sponsor: NSF

When: September 14, 2020 11.00 AM

Website: https://gannett.zoom.us/webinar/register/WN_5jxIEkseTleJMNj3JOuwNw

Brief Description: Join us for a special installment of NJBIZ Conversations for a live virtual discussion moderated by Editor Jeffrey Kanige featuring a panel of experts exploring entrepreneurship during the COVID-19 pandemic, including:

- How startups and small businesses can navigate the downturn

- Which steps businesses should take first
- Why the economic environment disproportionately hurts businesses run by people of color
- Where new opportunities can be found right now
- Who is providing financing during the pandemic
- When to persevere and when to fold
- And more!

To Join the Webinar: Register at above URL.

Event: National Academies Webinars

Sponsor: The national Academies of Science, Engineering and Medicine

When: September 1, 8, 2020; 3.00 PM – 4.00 PM

Website: [webinar series](#)

Brief Description: The mathematical sciences play a critical role in advancing crucial innovations and improving our prosperity, health, and security. Join us for a series of webinars featuring mathematicians telling the most important stories of how math has made an impact, from precision medicine to climate science.

This webinar series is part of a larger National Academies' study that will identify and illustrate the broad impact of the mathematical sciences. Learn more about the study at nas.edu/bmsa.

September 1 from 3-4pm ET: Deep Learning and Neural Networks ([join here](#))

In this webinar, “Deep Learning and Neural Networks,” invited speakers will illustrate the math that facilitated the development of the complex computational learning systems that we take advantage of every day, perhaps without even realizing it.

- Moderator: Montse Fuentes (University of Iowa)
- Speaker 1: Mikhail Belkin (Ohio State University)
- Speaker 2: Rachel Ward (University of Texas)

September 8 from 3-4pm ET: Climate and Weather ([join here](#))

In this webinar, “Climate and Weather,” invited speakers will examine what really drives forecasts and allows us to be better-prepared for natural disasters and climate variability - mathematical models!

- Moderator: Russ Caflisch (New York University)
- Speaker 1: Tim Delsole (George Mason University)
- Speaker 2: Laure Zanna (New York University)

To Join the Webinar: Please use the above links.

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Grant Opportunities

National Science Foundation

Grant Program: Focused Research Hubs in Theoretical Physics (FRHTP)

Agency: National Science Foundation NSF 20-605

RFP Website: <https://www.nsf.gov/pubs/2020/nsf20605/nsf20605.htm>

Brief Description: Focused Research Hubs in Theoretical Physics (FRHTP) are designed to enhance significant breakthroughs at an intellectual frontier of physics by providing resources beyond those available to individual investigators, so as to promote a collaborative approach to a focused topic while promoting the preparation of scientists at the beginning of their independent scientific careers. Although

interdisciplinary aspects may be included, the bulk of the effort must fall within the purview of the Division of Physics. The successful hub will demonstrate: (1) the potential to advance science; (2) the enhancement of the development of early career scientists; (3) creative, substantive activities aimed at enhancing education, diversity, and public outreach; (4) potential for broader impacts, e.g., impacts on other field(s) and benefits to society; (5) a synergy or value-added rationale that justifies a group approach. The FRHTP will be funded for an initial duration of five years. The intent is that the research topics proposed are at the stage that the scientific goals of the hub can be achieved in the first five years of the project. The FRHTP awards will provide support only for postdoctoral researchers plus general support for hub-related activities. The FRHTP are not intended to provide additional support for senior personnel (individual PIs), graduate or undergraduate students. Instead, the FRHTP is intended to support postdoctoral researchers and enable collaborative interactions via support for travel, collaboration meetings and workshops.

Awards: Cooperative Agreement; **Anticipated Funding Amount:** \$3,750,000 to \$10,250,000

Letters of Intent: Not required

Proposal Submission Deadline: January 15, 2021

Contacts: Bogdan Mihaila, telephone: (703) 292-8235, email: bmihaila@nsf.gov

- Julio R. Gea-Banacloche, telephone: (703) 292-7936, email: jgeabana@nsf.gov
- Robert Forrey, telephone: (703) 292-5199, email: rforrey@nsf.gov

Grant Program: National Artificial Intelligence (AI) Research Institutes

Agency: National Science Foundation NSF 20-604

RFP Website: <https://www.nsf.gov/pubs/2020/nsf20604/nsf20604.htm>

Brief Description: The 2019 update to the [National Artificial Intelligence Research and Development Strategic Plan](#), informed by visioning activities in the scientific community as well as interaction with the public, identifies as its first strategic objective the need to make long-term investments in AI research in areas with the potential for long-term payoffs in AI. The President's Council of Advisors for Science and Technology has published [Recommendations for Strengthening American Leadership in Industries of the Future](#), including AI, and calls for new and sustained research in AI to drive science and technology progress. The National AI Research Institutes program enables longer-term research and U.S. leadership in AI through the creation of AI Research Institutes.

This program is a joint government effort between the National Science Foundation (NSF), U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA), U.S. Department of Homeland Security (DHS) Science & Technology Directorate (S&T), and the U.S. Department of Transportation (DOT) Federal Highway Administration (FHWA). New to the program this year are contributions from partners in U.S. industry who share in the government's goal to advance national competitiveness through National AI Research Institutes. This year's industry partners are Accenture, Amazon, Google, and Intel Corporation. This program solicitation invites proposals for full institutes that have a principal focus in one or more of the following themes, detailed in the Program Description:

- Theme 1: Human-AI Interaction and Collaboration
- Theme 2: AI Institute for Advances in Optimization
- Theme 3: AI and Advanced Cyberinfrastructure
- Theme 4: Advances in AI and Computer and Network Systems
- Theme 5: AI Institute in Dynamic Systems
- Theme 6: AI-Augmented Learning
- Theme 7: AI to Advance Biology
- Theme 8: AI-Driven Innovation in Agriculture and the Food System

Awards: Cooperative Agreement; **Anticipated Funding Amount:** \$128,000,000 to \$160,000,000

Letters of Intent: Not required

Limit on Number of Proposals for Senior Personnel: 1

Limit on Number of Proposals per Organization: 2

Proposal Submission Deadline: December 04, 2020

Contacts: AI Institutes Program Team, telephone: 703-292-5111, email: AIInstitutesProgram@nsf.gov

Grant Program: Postdoctoral Research Fellowships in Biology (PRFB)

Agency: National Science Foundation NSF 20-602

RFP Website: <https://www.nsf.gov/pubs/2020/nsf20602/nsf20602.htm>

Brief Description: The Directorate for Biological Sciences (BIO) awards Postdoctoral Research Fellowships in Biology (PRFB) to recent recipients of the doctoral degree for research and training in *selected* areas supported by BIO and with special goals for human resource development in biology. For applications under this solicitation, these areas are (1) *Broadening Participation of Groups Underrepresented in Biology*, (2) *Integrative Research Investigating the Rules of Life Governing Interactions Between Genomes, Environment and Phenotypes*, and (3) *Plant Genome Postdoctoral Research Fellowships*.

The fellowships encourage independence at an early stage of the research career to permit Fellows to pursue their research and training goals in the most appropriate research locations in collaboration with sponsoring scientists. It is expected that the sponsoring scientists will actively mentor the Fellows and will greatly benefit from collaborating with these talented early-career scientists and incorporating them into their research groups. The research and training plan of each fellowship must address important scientific questions within the scope of BIO and the specific guidelines in this fellowship program solicitation. Because the fellowships are offered to postdoctoral scientists only early in their careers, NSF encourages doctoral students to discuss the availability of these postdoctoral fellowships with their doctoral mentors and potential postdoctoral sponsors early in their doctoral programs to take advantage of this funding opportunity. Fellowships are awards to individuals, not institutions, and are administered by the Fellows.

Awards: Fellowship; **Anticipated Funding Amount:** \$10,000,000 to \$12,000,000

Letters of Intent: Not required

Proposal Submission Deadline: November 18, 2020

Contacts: Amanda A. Simcox (Areas 1 & 2), telephone: (703) 292-2532, email: asimcox@nsf.gov

- John Barthell (Areas 1 & 2), telephone: (703) 292-2618, email: jbarthel@nsf.gov
 - Diane J. Okamuro (Area 3), telephone: (703) 292-8420, email: dokamuro@nsf.gov
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Grant Program: Biology Integration Institutes (BII)

Agency: National Science Foundation NSF 20-601

RFP Website: <https://www.nsf.gov/pubs/2020/nsf20601/nsf20601.htm>

Brief Description: The Biology Integration Institutes (BII) program supports collaborative teams of researchers investigating questions that span multiple disciplines within and beyond biology.

Integration across biological disciplines is essential if we hope to understand the diverse and ever-increasing data streams of modern biology and tackle emergent questions about living organisms and the environment. Of equal importance is the need for groundbreaking and sustainable training programs that prepare the next generations of scientists to navigate the breadth of biological sciences, training in multiple disciplines without sacrificing depth of learning or innovation. In addition, the biology community must continue to develop practices and adopt strategies that leverage rapid advances in cyberinfrastructure and other technologies to bridge and integrate across subdisciplines and make

resources accessible, re-usable, and adaptable for unanticipated purposes. In these ways, Biology Integration Institutes will focus on biological themes that enable the discoveries of life's innovations. The outcomes from biological integration will inspire new biotechnologies and applications to drive our bioeconomy and provide solutions to societal challenges. While this solicitation focuses on the integration of **biological** subdisciplines, any field beyond biology may be included as needed to address the overarching biological theme.

Awards: Cooperative Agreement; **Anticipated Funding Amount:** \$15,000,000

Letters of Intent: Not required

Proposal Submission Deadline: January 13, 2021

Contacts: Reed Beaman, Program Director, DBI, telephone: (703) 292-7163, email: rsbeaman@nsf.gov

- Stephen DiFazio, Program Director, MCB, telephone: (703) 292-4517, email: sdifazio@nsf.gov

- Wilson Francisco, Program Director, MCB, telephone: (703) 292-7856,

email: wfrancis@nsf.gov

Grant Program: Harnessing the Data Revolution: Coordination Hub (HDR Central)

Agency: National Science Foundation NSF 20-600

RFP Website:

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505820&org=NSF&sel_org=NSF&from=fund

Brief Description: The Big Ideas represent unique opportunities to position our Nation at the cutting edge of global science and engineering by bringing together diverse disciplinary perspectives to support convergence research. When responding to this solicitation, even though proposals must be submitted through the **Directorate for Computer and Information Science and Engineering, Office of Advanced Cyberinfrastructure, CISE/OAC**, once received, the proposals will be managed by a cross-disciplinary team of NSF Program Directors.

NSF's [*Harnessing the Data Revolution \(HDR\) Big Idea*](#) is a national-scale activity to enable new modes of data-driven discovery that will allow fundamental questions to be asked and answered at the frontiers of science and engineering. In 2019, the HDR Big Idea launched three parallel efforts in pursuit of these aims: Institutes for Data-Intensive Research in Science and Engineering (I-DIRSE), HDR: Transdisciplinary Research In Principles Of Data Science Phase I (HDR TRIPODS Phase I), and Data Science Corps (DSC). To engage participants across these efforts and amplify their impacts, this program solicits proposals for a nationwide HDR Coordination Hub, called HDR Central. The overarching purpose of HDR Central will be to increase the impact of the HDR Big Idea by supporting coordination and communication among all HDR projects, and by sharing HDR efforts and outcomes with the public.

Awards: Standard and continuing grants; **Anticipated Funding Amount:** \$10,000,000

Letters of Intent: Not required

Proposal Submission Deadline: November 12, 2020

Contacts: Amy Walton HDRCentral@nsf.gov (703)292-4538

Huixia (Judy) Wang HDRCentral@nsf.gov (703)292-2279

Grant Program: International Research Experiences for Students (IRES)

Agency: National Science Foundation NSF 20-598

RFP Website: <https://www.nsf.gov/pubs/2020/nsf20598/nsf20598.htm>

Brief Description: The International Research Experiences for Students (IRES) program supports international research and research-related activities for U.S. science and engineering students. The IRES program contributes to development of a diverse, globally engaged workforce with world-class skills. IRES focuses on active research participation by undergraduate and/or graduate students in high quality

international research, education and professional development experiences in NSF-funded research areas. The overarching, long-term goal of the IRES program is to enhance U.S. leadership in science and engineering research and education and to strengthen economic competitiveness through training the next generation of research leaders. This solicitation features two mechanisms; proposers are required to select one of the following tracks to submit their proposal.

Track I focuses on the development of world-class research skills in international cohort experiences. Track II is dedicated to targeted, intensive learning and training opportunities that leverage international knowledge at the frontiers of research.

Student participants supported by IRES funds must be citizens, nationals, or permanent residents of the United States.

Students do not apply directly to NSF to participate in IRES activities. Students apply to NSF-funded investigators who receive IRES awards. To identify appropriate IRES projects, students should consult the directory of active [IRES awards](#).

All PIs, co-PIs and Senior Personnel on IRES proposals must be from U.S. based organizations. International partners should be listed as "unfunded collaborators."

1. **IRES - Track I: *IRES Sites (IS)*** projects engage a group of undergraduate and/or graduate students in active high-quality collaborative research, in principle at an international site with mentorship from researchers at a host lab. IRES Sites must be organized around a coherent intellectual theme that may involve a single discipline or multiple disciplines funded by NSF.
2. **IRES - Track II: *Advanced Studies Institutes (ASI)*** are intensive short courses with related activities that engage advanced graduate students in active learning and research at the frontiers of knowledge. ASIs typically range in length from ten to twenty-one days and, in principle, must be held outside the United States. ASIs must have a compelling rationale for their international location and should involve distinguished active researchers in the target field from the U.S. and abroad. ASIs should enable students to develop skills and broaden professional networks, leveraging international participation and complementary resources (expertise, facilities, data, field site, etc.) for mutual benefit.

Awards: Standard Grant or Continuing Grant; **Anticipated Funding Amount:** \$10,000,000

Track- I: *IRES Sites*. Up to \$300,000 per award. For exceptionally creative proposals, awards up to \$400,000 will be considered.

Track- II: *Advanced Studies Institutes*. Typically, an average ASI budget is \$150,000 for each institute. Proposals involving a series of institutes are permitted when well-justified. The overall total budget for Track II proposals should not exceed \$400,000.

Letters of Intent: Not required

Proposal Submission Deadline: November 09, 2020; September 28, 2021

Track - II: *Advanced Studies Institutes*

November 12, 2020; September 21, 2021

Track - I: *IRES Sites*

Contacts: Fahmida N. Chowdhury, telephone: (703) 292-4672, email: fchowdhu@nsf.gov

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National Institutes of Health

Grant Program: Innovative Research in Cancer Nanotechnology (IRC�) (R01 Clinical Trial Not Allowed)

Agency: National Institutes of Health PAR-20-284

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PA-20-284.html>

Brief Description: IRCN awards are expected to advance employment of nanotechnology in understanding, diagnosing, and treating 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. Typical efforts and applications in this area of research involve 1) demonstration of therapies based on nanoparticle delivery with the attempt to obtain improved efficacy and 2) demonstration of diagnostic tools (*in vitro* or *in vivo*) with improved sensitivity and specificity. These are clearly important objectives, but it is often that the above goals can be accomplished without a full understanding of the therapeutic mode of action or insight into mechanisms contributing to improved sensitivity and specificity of diagnostics. Projects submitted to this FOA need to be designed differently. While proposing an innovative, nanotechnology-based solution to cancer biology and/or oncology problems, the project should focus on mechanistic studies. These studies are expected to address the fundamental understanding of nanomaterial and/or nano-device interactions with biological systems in the effort to uncover mechanisms governing effective delivery of nanoparticles and/or nano-devices to desired and intended cancer targets *in vivo* and/or successful operation of detection and diagnostic devices and sensors *in vitro*. *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).*

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 applicable

Proposal Submission Deadline: November 4, 2020, May 6, 2021, November 4, 2021, May 5, 2021, November 3, 2022, May 4, 2023

All applications are due by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on the listed date(s).

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.

Contact: Piotr Grodzinski, Ph.D. National Cancer Institute (NCI) Telephone 240-781-3305

Email: grodzinp@mail.nih.gov

Grant Program: Cellular and Molecular Biology of Complex Brain Disorders (R21 Clinical Trial Not Allowed)

Agency: National Institutes of Health PAR-20-264

Companion Opportunities:

[PAR-20-263](#) - [R01](#) Research Project Grant

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PA-20-264.html>

Brief Description: This FOA encourages research on the biology of high confidence risk factors associated with complex brain disorders, with a focus on the intracellular, transcellular and circuit substrates of neural function. For the purposes of this FOA, the term “complex” can refer to a multifactorial contribution to risk (e.g., polygenic and/or environmental) and/or highly distributed functional features of the brain disorder. Studies may be either hypothesis-generating (unbiased discovery) or hypothesis-testing in design and may utilize *in vivo*, *in situ* or *in vitro* experimental paradigms, e.g., model organisms or human cell-based assays. While behavioral paradigms and outcome measures can be incorporated into the research design to facilitate the characterization of intracellular, transcellular and circuit mechanisms, these are neither required nor expected. Studies should not attempt to “model” disorders but instead should aim to elucidate the neurobiological impact of individual or combined risk factor(s), such as the affected molecular and cellular components and their relationships

within defined biological process(es). This can include the fundamental biology of these factors, components and processes. The resulting paradigms, component pathways and biological processes should be disseminated with sufficient detail to enrich common and/or federated data resources (e.g., those contributing to the Gene Ontology, Synaptic Gene Ontology, FAIR Data Informatics) in order to bridge the gap between disease risk factors, biological mechanism and therapeutic target identification. See Section IV, Application and Submission Information, Data and Resource Sharing.

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

Letter of Intent: Not applicable

Proposal Submission Deadline: [Standard dates](#) apply. The first standard application due date for this FOA is October 16, 2020.

All applications are due by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on the listed date(s).

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.

Contact: Joy Boyer, National Human Genome Research Institute (NHGRI), Telephone: 301-402-4997
Email: boyerj@mail.nih.gov

Grant Program: BRAIN Initiative: Data Archives for the BRAIN Initiative (R24 Clinical Trial Optional)

Agency: National Institutes of Health RFA-MH-20-600

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-20-600.html>

Brief Description: The purpose of this FOA is to provide support for the creation and management of more than one data archive to hold data related to the BRAIN Initiative. These archives are part of the informatics infrastructure for the BRAIN Initiative. The other components of that infrastructure include developing data standards that are needed to describe the new experiments that are being created by or used in the BRAIN Initiative ([RFA-MH-17-256](#), [RFA-MH-19-146](#), and [RFA-MH-20-128](#)), and developing software to visualize and analyze the data ([RFA-MH-17-257](#) and [RFA-MH-19-147](#)). Each of these components is aimed at building an infrastructure that is used by a particular sub-domain of BRAIN Initiative related experiments rather than building a single all-encompassing informatics infrastructure. Building the infrastructure one experimental area at a time will ensure that the infrastructure is immediately useful to the research community. As our understanding of the brain improves, we plan to create linkages between these various sub-domain specific informatics programs. While current efforts are limited in scope, investigators of the informatics programs should factor in plans for the eventual linkage of the various sub-domain specific informatics programs.

The data archives supported under this FOA are expected to use relevant standards that describe BRAIN Initiative experiments, and to be integrated with relevant software tools for visualization and analysis of archived data. Such standards and tools may be developed under BRAIN Initiative informatics awards or may already exist. Awardees under all the informatics programs are expected to work together. The awardees should budget for hackathons and other collaborative efforts that will be necessary to integrate the products produced by all awardees. Collaborations with neuro-informatics efforts outside of the BRAIN Initiative are both welcome and encouraged.

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

Letter of Intent: 30 days prior to the application due dates

Proposal Submission Deadline: July 14, 2021, July 14, 2022, and July 14, 2023 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. No late applications will be accepted for this Funding Opportunity Announcement.

All applications are due by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on the listed date(s).

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.

Contact: Ming Zhan, Ph.D., National Institute of Mental Health (NIMH), Telephone: 301-827-3678

Email: ming.zhan@nih.gov

Grant Program: Emergency Awards: RADx-rad Data Coordination Center (DCC) (U24 Clinical Trial Not Allowed)

Agency: National Institutes of Health RFA-OD-20-019

Companion Opportunities:

[NOT-OD-20-159](#) - Notice of Special Interest (NOSI): Availability of Emergency Competitive Revisions for Wastewater Surveillance Research for Public Health Response to Coronavirus Disease 2019 (COVID-19)

[RFA-OD-20-015](#) - Emergency Awards: RADx-rad Wastewater Detection of SARS-COV-2 (COVID-19) (U01 - Clinical Trials Not Allowed)

[RFA-OD-20-014](#) - Emergency Awards: Automatic Detection and Tracing of SARS-CoV-2 (U01 Clinical Trial Not Allowed)

[RFA-OD-20-020](#) - Emergency Awards RADx-rad: Novel Biosensing for Screening, Diagnosis and Monitoring of COVID-19 From Skin and The Oral Cavity (R44 Clinical Trial Not Allowed)

[RFA-OD-20-021](#) - Emergency Awards RADx-rad: Novel Biosensing for Screening, Diagnosis and Monitoring of COVID-19 From Skin and The Oral Cavity (Fast-Track STTR Clinical Trial Not Allowed)

[NOT-OD-20-152](#) - Availability of Emergency Competitive Revisions for Chemosensory Testing as a COVID-19 Screening Tool

[RFA-OD-20-022](#) - Chemosensory Testing as a COVID-19 Screening Tool (U01 Clinical Trial Optional)

[RFA-OD-20-016](#) - Emergency Awards: RADx-rad Multimodal COVID-19 surveillance methods for high risk clustered populations (R01 Clinical Trial Optional)

[RFA-OD-20-017](#) - Emergency Awards RADx-rad: Screening for COVID-19 by Electronic-Nose Technology (SCENT) (U18 Clinical Trial Not Allowed)

[RFA-OD-20-018](#) - Emergency Awards: Exosome-based Non-traditional Technologies Towards Multi-Parametric and Integrated Approaches for SARS-CoV-2 (U18 Clinical Trial Not Allowed)

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-OD-20-019.html>

Brief Description: Expanding the capacity, throughput, and regional placement of existing technologies and accelerating the development of new technologies will contribute significantly to the current national efforts to curb the COVID-19 pandemic. To help meet this need, NIH launched the Rapid Acceleration of Diagnostics (RADx) program to speed innovation in the development, commercialization, and implementation of technologies for COVID-19 testing. The RADx program is a national call for scientists and organizations to bring their innovative ideas for new COVID-19 testing approaches and strategies.

As a part of this program, the NIH developed the RADx Radical (RADx-rad) initiative. RADx-rad will support new, or non-traditional applications of existing approaches, to enhance their usability, accessibility, and/or accuracy. RADx-rad will be centrally aligned and coordinated to harmonize the data collection, storage, and management, providing an opportunity to further explore and identify additional approaches to understand this novel virus. Beyond the current crisis, it is anticipated that the technologies advanced through RADx-rad may also be applicable to other, yet unknown, infectious agents.

The RADx-rad Data Coordination Center (DCC) will provide overarching support and guidance to RADx-rad awardees in the following three areas: (1) Administrative Operations and Logistics, (2) Data Collection, Integration and Sharing, and (3) Data Management and Use.

Awards: Application budgets are limited to \$4 Million in annual direct costs.

Letter of Intent: August 31, 2020

Proposal Submission Deadline: September 30, 2020

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

All applications are due by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on the listed date(s).

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.

Contact: Valerie Florance, PhD, National Library of Medicine (NLM), Telephone: 301-496-4621

Email: florancev@mail.nih.gov

Grant Program: Emergency Awards: RADx-rad Wastewater Detection of SARS-COV-2 (COVID-19) (U01 - Clinical Trials Not Allowed)

Agency: National Institutes of Health RFA-OD-20-015

Companion Opportunities:

[RFA-OD-20-014](#) - Emergency Awards: Automatic Detection and Tracing of SARS-CoV-2 (U01 Clinical Trial Not Allowed)

[RFA-OD-20-020](#) - Emergency Awards RADx-rad: Novel Biosensing for Screening, Diagnosis and Monitoring of COVID-19 From Skin and The Oral Cavity (R44 Clinical Trial Not Allowed)

[RFA-OD-20-021](#) - Emergency Awards RADx-rad: Novel Biosensing for Screening, Diagnosis and Monitoring of COVID-19 From Skin and The Oral Cavity (Fast-Track STTR Clinical Trial Not Allowed)

[NOT-OD-20-152](#) - Availability of Emergency Competitive Revisions for Chemosensory Testing as a COVID-19 Screening Tool

[RFA-OD-20-022](#) - Chemosensory Testing as a COVID-19 Screening Tool (U01 Clinical Trial Optional)

[RFA-OD-20-016](#) - Emergency Awards: RADx-rad Multimodal COVID-19 surveillance methods for high risk clustered populations (R01 Clinical Trial Optional)

[RFA-OD-20-017](#) - Emergency Awards RADx-rad: Screening for COVID-19 by Electronic-Nose Technology (SCENT) (U18 Clinical Trial Not Allowed)

[RFA-OD-20-018](#) - Emergency Awards: Exosome-based Non-traditional Technologies Towards Multi-Parametric and Integrated Approaches for SARS-CoV-2 (U18 Clinical Trial Not Allowed)

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-OD-20-015.html>

Brief Description: Because traces of COVID-19 can be detected in human effluent, wastewater (i.e. sewage) sample testing can be an efficient and effective way to test defined population areas for the presence of COVID-19. Wastewater-based testing can be used alongside national and local data sources to provide cost-effective and objective measures of the presence of a specific compound (e.g., drug, virus). For over 20 years, wastewater-based testing (WBT), initially proposed by the U.S. Environmental Protection Agency, has been used in Europe, Australia, and the U.S. to test for the presence and extent of substance use in communities. Wastewater-based epidemiology (WBE) has also been successfully used as a surveillance tool for SARS, hepatitis A, and polio. Recent ongoing studies based on WBT with COVID-19 have provided an earlier prediction of an outbreak of COVID-19 cases, compared to data provided by individual-level testing, suggesting the possibility of using these data to inform early containment and mitigation measurements.

Historically, wastewater analysis approaches have focused on downstream sample collection, namely at the water treatment plants, which provides broad, city-level sampling that cannot be directly used to guide more localized estimates and related interventions. More recent novel approaches have focused on upstream sample collection, which allows for more granular, community- and neighborhood-level resolution. Advantages of such an approach, compared to individual-level testing, include the ability to capture a broader population size, the ability to be deployed in communities where individual-level testing may be difficult to implement, and anonymity of testing, which may reduce barriers to testing related to stigma. Community-level sampling can also be deployed in settings with a high risk of disease transmission (e.g., criminal justice facilities, assisted living/nursing home facilities, dormitories), within communities that are particularly vulnerable to COVID-19 due to underlying health conditions or other factors, and in areas with marginalized populations where access to or utilization of healthcare services, including individualized testing, may be limited. WBT-based surveillance can provide detailed mapping of the extent and spread of COVID-19 and has been shown to be orders of magnitude less expensive and faster than clinical screening, albeit serving as a complementary approach rather than substituting for individual-level testing and screening. Early engagement of communities in the identification of testing sites and implementation of testing, as well as dissemination of the data produced and reporting back to the community, may also improve compliance with community guidance aimed at preventing the spread of SARS-CoV-2, and mitigation strategies. Longer-term, the approaches developed for SARS-CoV-2 detection in wastewater could be leveraged to enable creation of early warning systems for future outbreaks of known and emerging pathogens.

Awards: Application budgets are limited to \$2,000,000 per year in Direct Costs and need to reflect the actual needs of the proposed project.

Letter of Intent: August 15, 2020

Proposal Submission Deadline: September 15, 2020

No late applications will be accepted for this Funding Opportunity Announcement

All applications are due by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on the listed date(s).

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.

Contact: David Balshaw, Ph.D., National Institute of Environmental Health Sciences ([NIEHS](#))
984-287-3234; david.balshaw@nih.gov

Grant Program: Emergency Awards RADx-RAD: Novel Biosensing for Screening, Diagnosis and Monitoring of COVID-19 From Skin and The Oral Cavity (Fast-Track STTR Clinical Trial Not Allowed)

Agency: National Institutes of Health RFA-OD-20-021

Companion Opportunities:

[RFA-OD-20-019](#) - Emergency Awards: RADx-rad Data Coordination Center (DCC) (U24 Clinical Trial Not Allowed)

[RFA-OD-20-020](#) - Emergency Awards RADx-RAD: Novel Biosensing for Screening, Diagnosis and Monitoring of COVID-19 From Skin and The Oral Cavity (Direct to Phase II SBIR Clinical Trial Not Allowed)

[RFA-OD-20-017](#) - Emergency Awards RADx-RAD: Screening for COVID-19 by Electronic-Nose Technology (SCENT) (U18 Clinical Trial Not Allowed)

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-OD-20-021.html>

Brief Description: This RFA solicits **Fast-Track STTR** applications to advance development of novel, non-traditional, safe and effective biosensing and detection approaches to identify the current SARS-

CoV-2 virus or biomarkers of the COVID-19 disease, and/or with potential to address other pandemics from unknown viruses. Biosensing and detection technologies submitted to this initiative should provide associations between biomarkers emanating from **skin** or the **oral cavity** to patients with symptomatic and asymptomatic COVID-19. Leveraging the accessibility of human skin and the oral cavity, this FOA seeks 1) to advance novel biosensing technologies that are innovative, safe, and effective, and 2) to implement such technologies into devices with integrated artificial intelligent (AI) systems for the detection, diagnosis, prediction, prognosis and monitoring of COVID-19 in clinical, community and everyday settings.

Biosensing devices are expected to **target skin or the oral cavity as sampling sites**. Skin biosensing designs must target detection of volatile organic compounds (VOCs, i.e. scents or odors) emanating from skin in passive and noninvasive manner for use at point of care. In addition to VOCs, oral biosensing technologies may target a wealth of biological, chemical and physical biosignatures representative of SARS-CoV-2 virus and/or COVID-19 disease sampled from exhaled breath/droplets, saliva, and tissues in the oral cavity using a variety of detection schemes.

Awards: Total funding support (direct costs, indirect costs, fee) normally may not exceed \$256,580 for Phase I awards and \$1,710,531 for Phase II awards.

Letter of Intent: August 18, 2020

Proposal Submission Deadline: September 18, 2020

All applications are due by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on the listed date(s).

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.

Contact: Orlando Lopez, Ph.D., National Institute of Dental and Craniofacial Research (NIDCR)

Telephone: 301-402-4243, Email: orlando.lopez@nih.gov

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Department of Defense/US Army/DARPA/ONR/AFOSR

Grant Program: Verified Security and Performance Enhancement of Large Legacy Software (V-SPELLS)

Agency: Department of Defense DARPA - Information Innovation Office HR001120S0058

Website: <https://beta.sam.gov/opp/7dc5798bf5e74d8aa3df767edd3e0815/view>

Brief Description: The goal of the V-SPELLS program is to create a developer-accessible capability for piece-by-piece enhancement of software components with new verified code that is both correct-by-construction and compatible-by-construction, i.e., safely composable with the rest of the system. V-SPELLS will create practical tools for developers to gain benefits of formal software verification in incremental software (re)engineering rather than only in clean-slate introduction. V-SPELLS tools will enable developers to deliver assured incremental modernization of legacy systems in a manner that leverages verification technologies and reduces rather than raises risk. V-SPELLS aims to radically broaden adoption of software verification by enabling incremental introduction of superior technologies into systems that cannot be re-designed from scratch and replaced as a whole.

Awards: There are multiple technical areas for this solicitation. Currently, DARPA anticipates multiple awards in Technical Area 1, Technical Area 2 and Technical Area 3; and a single award for Technical Area 4. DARPA anticipates making multiple awards under this BAA, which has a total anticipated funding amount of approximately \$40 million.

Letter of Intent: Not Required

Proposal Deadline: September 9, 2020, 12:00 noon (ET)

Proposers Day: July 29, 2020

Contact Information: Dr. Sergey Bratus, Program Manager, DARPA/I2O

Grant Program: DoD Combat Readiness, Rapid Development and Translational Research Award

Agency: Department of Defense Dept. of the Army – USAMRAA W81XWH-20-S-CRRP

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=328340>

Brief Description: The CRRP vision is to deliver high-impact medical solutions throughout the continuum of care to increase survivability and readiness of the Warfighter in diverse operational settings. The program seeks to develop innovative solutions to increase medical readiness, mitigate fatalities, optimally treat life-threatening injuries, and promote positive long-term outcomes. While the CRRP focuses on capability gaps in frontline care, the program also considers how chronic disorders typically associated with pre-deployment readiness (e.g., sleep, gastrointestinal conditions) may influence the delivery of care in deployed environments and contribute to injury susceptibility and recovery. Innovations developed by CRRP-supported research may be applied proactively as a way to establish medical readiness ahead of deployment, in-theater at the point of injury or during periods of prolonged care, or during transport/en route care within and from theater to hospital settings. These solutions will not only help to minimize the morbidity and mortality of combat-related injuries sustained by the Warfighter, they will also often translate to civilian care.

Awards: The anticipated total costs budgeted for the entire period of performance for an FY20 CRRP RDTRA will not exceed \$2M.

Letter of Intent: Pre-Proposal Required

Proposal Deadline: Pre-Proposal/Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), September 10, 2020 • Invitation to Submit an Application: October 16, 2020 • Proposal/Application Submission Deadline: 11:59 p.m. ET, December 3, 2020

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

Grant Program: Defense Sciences Office Office-wide

Agency: Department of Defense DARPA - Defense Sciences Office HR001120S0048

Website: <https://beta.sam.gov/opp/36d6bc789b364142a0f7a267017b06d9/view>

Brief Description: The mission of the Defense Advanced Research Projects Agency (DARPA) Defense Sciences Office (DSO) is to identify and create the next generation of scientific discovery by pursuing high-risk, high-payoff research initiatives across a broad spectrum of science and engineering disciplines and transforming these initiatives into disruptive technologies for U.S. national security. In support of this mission, the DSO Office-wide BAA invites proposers to submit innovative basic or applied research concepts or studies and analysis proposals that address one or more of the following technical thrust areas: (1) Frontiers in Math, Computation and Design, (2) Limits of Sensing and Sensors, (3) Complex Social Systems, and (4) Anticipating Surprise. Each of these thrust areas is described below and includes a list of example research topics that highlight several (but not all) potential areas of interest. Proposals must investigate innovative approaches that enable revolutionary advances. DSO is explicitly not interested in approaches or technologies that primarily result in evolutionary improvements to the existing state of practice.

Awards: Multiple awards are anticipated; however, the level of funding for individual awards made under this solicitation has not been predetermined and will depend on the scope and quality of the proposals received, as well as the availability of funds.

Proposal Deadline: Executive Summary Due Date and Time: Executive Summaries may be submitted on a rolling basis until Executive Summary Due Date: June 11, 2021, 4:00 p.m. o Proposal Abstract Due Date and Time: Abstracts may be submitted on a rolling basis until June 11, 2021, 4:00 p.m. o FAQ Submission Deadline: June 2, 2021, 4:00 p.m. See Section VIII.A. o Full Proposal Due Date and Time: Proposals may be submitted on a rolling basis until June 11, 2021, 4:00 p.m

Contact Information: Phil Root, Deputy Director, DARPA/DSO o BAA Email: HR001120S0048@darpa.mil

Grant Program: C4ISR, Information Operations, Cyberspace Operations and Information Technology System Research

Agency: Department of Defense Naval Information Warfare Center Pacific N66001-20-S-4702

Website: <https://www.grants.gov/web/grants/search-grants.html>

Brief Description: Naval Information Warfare Center, Pacific (NIWC Pacific), is soliciting proposals in accordance with FAR 35.016, DoDGARS 22.315(a), and DoD Other Transactions (OT) Guide for Prototype Projects for research in areas relating to the advancement of C4ISR capabilities, enabling technologies for Information Operations and Cyberspace Operations, and Information Technology systems. Submissions in response to this announcement shall be for areas relating to the advancement of Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) capabilities, enabling technologies for Information Operations and Cyberspace Operations, and Information Technology systems.

Proposed research should investigate unique and innovative approaches for defining and developing next generation integratable C4ISR capabilities and command suites. The area topics reflect the interest of the NIWC Pacific, but interest from other Team NAVWAR components could be generated and selections could be made for funding by other than NIWC Pacific. Only offers that are in the areas of basic research, applied research, advanced technology development, and advanced component development and prototypes will be considered (see Appendix A). Testing and optimizing of concepts or prototypes may be necessary. This may involve virtual simulation and/or laboratory as well as at sea measurements.

Awards: Multiple awards are anticipated

Proposal Deadline: This announcement is open for 365 days from the original posting date. Any white papers received during that time shall only be considered for award of a contract, other transaction, grant, or cooperative agreement. Closing date; June 03, 2021

Contact Information: David Roden (Primary) Contract Specialist Telephone: (619) 553-2087 Email: David.Roden@navy.mil NIWC Pacific Code 22710 53560 Hull Street San Diego, CA 92152-5001

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Department of Transportation

Grant Program: Advanced Transportation and Congestion Management Technologies Deployment Initiative

Agency: Department of Transportation 693JJ320NF00010

Website: <https://www.fhwa.dot.gov/fastact/factsheets/advtranscongmtfs.cfm>

Brief Description: The DOT hereby requests applications to result in awards to eligible entities to develop model deployment sites for large scale installation and operation of advanced transportation technologies to improve safety, efficiency, system performance, and infrastructure return on investment. These model deployments are expected to provide benefits in the form of: • reduced traffic-related

fatalities and injuries; • reduced traffic congestion and improved travel time reliability; • reduced transportation-related emissions; • optimized multimodal system performance; • improved access to transportation alternatives, including for underserved populations; • public access to real time integrated traffic, transit, and multimodal transportation information to make informed travel decisions; • cost savings to transportation agencies, businesses, and the traveling public; or • other benefits to transportation users and the general public. This competitive ATCMTD Grant Program will promote the use of innovative transportation solutions. The deployment of these technologies will provide Congress and DOT with valuable real-life data and feedback to inform future decision-making.

Letter of Intent: Not Required

Proposal Deadline: August 31, 2020

Contact Information: Submit Questions to: ATCMTD@dot.gov

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Department of Agriculture:

Grant Program: NRCS's Regional Conservation Partnership Program

Agency: Department of Agriculture USDA-NRCS-NHQ-RCPPC-21-NOFO0001033

Website: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/rcpp/>

Brief Description: The Regional Conservation Partnership Program (RCPP) promotes coordination of NRCS conservation activities with partners that offer value-added contributions to expand our collective ability to address on-farm, watershed, and regional natural resource concerns. Through RCPP, NRCS seeks to co-invest with partners to implement projects that demonstrate innovative solutions to conservation challenges and provide measurable improvements and outcomes tied to the resource concerns they seek to address. Successful RCPP projects embody the following core principles:

- **Impact**—RCPP applications must propose effective and compelling solutions that address one or more natural resource priorities to help solve natural resource challenges. Partners are responsible for evaluating a project's impact and results.
- **Partner Contributions**—Partners are responsible for identifying any combination of cash and in-kind value-added contributions to leverage NRCS's RCPP investments. It is NRCS's goal that partner contributions at least equal the NRCS investment in an RCPP project. Substantive partner contributions are given priority consideration as part of the RCPP application evaluation criteria.
- **Innovation**—NRCS seeks projects that integrate multiple conservation approaches, implement innovative conservation approaches or technologies, build new partnerships, and effectively take advantage of program flexibilities to deliver conservation solutions.
- **Partnerships and Management**—Partners must have experience, expertise, and capacity to manage the partnership and project, provide outreach to producers, and quantify the environmental outcomes of an RCPP project. RCPP ranking criteria give preference to applicants that meaningfully engage historically underserved farmers and ranchers.

Awards: Up to \$10,000,000; Anticipated available funding: \$360,000,000

Proposal Deadline: RCPP Classic Application Period Open through November 4, 2020

Contact Information: [NRCS RCPP Staff](#)

Grant Program: Agriculture and Food Research Initiative - Foundational and Applied Science

Agency: Department of Agriculture USDA-NIFA-AFRI-007692

Website: <https://nifa.usda.gov/funding-opportunity/agriculture-and-food-research-initiative-foundational-applied-science-program>

Brief Description: The AFRI Foundational and Applied Science Program supports grants in six AFRI priority areas to advance knowledge in both fundamental and applied sciences important to agriculture. The six priority areas are: Plant Health and Production and Plant Products; Animal Health and Production and Animal Products; Food Safety, Nutrition, and Health; Bioenergy, Natural Resources, and Environment; Agriculture Systems and Technology; and Agriculture Economics and Rural Communities. Research-only, extension-only, and integrated research, education and/or extension projects are solicited in this Request for Applications (RFA). See Foundational and Applied Science RFA for specific details.

Letter of Intent: Required.

Awards: Up to \$15,000,000; Anticipated available funding: \$290,000,000

Proposal Deadline: Thursday, July 29, 2021

Contact Information: [AFRI Coordination Team](#)

Grant Program: REAP-Renewable Energy Systems and Energy Efficiency Improvements

Agency: Department of Agriculture RDBCP-11-REAP-RES-EEI-2020

Website: <https://www.govinfo.gov/content/pkg/FR-2019-08-30/pdf/2019-18825.pdf>

Brief Description: Eligible applicants are agricultural producers and rural small businesses. All agricultural producers, including farmers and ranchers, who gain 50% or more of their gross income from the agricultural operations are eligible. Small businesses that are located in a rural area can also apply. Rural electric cooperatives may also be eligible to apply. Additional Information on Eligibility: Citizenship - To be eligible, applicants must be individuals or entities at least 51 percent owned by persons who are either: 1) citizens of the United States (U.S.), the Republic of Palau, the Federated States of Micronesia, the Republic of the Marshall Islands, or American Samoa; or 2) legally admitted permanent residents residing in the U.S. Project - The project must be to conduct a feasibility study for a renewable energy system. Eligible technologies include: projects that produce energy from wind, solar, biomass, geothermal, hydro power and hydrogen-based sources.

Awards: Up to \$500,000; Anticipated Funding: \$70 million

Submission Deadline: September 30, 2020

Contact: Technical Contact: Maureen Hessel, Energy Specialist, Phone 202-401-0142

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Department of Labor

Grant Program: Supply Chains Tracing Project

Agency: Department of Labor FOA-ILAB-20-04

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=328321>

Brief Description: The Bureau of International Labor Affairs (ILAB), U.S. Department of Labor (USDOL, or the Department), announces the availability of approximately \$8,000,000 total costs (subject to the availability of federal funds) for up to two cooperative agreements of up to \$4,000,000 total costs each to fund technical assistance projects to increase the downstream tracing of goods made by child labor or forced labor. 1 Project outputs include (1) increasing the number of tested supply chain tracing methodologies; (2) increasing the number of piloted tools for supply chain tracing; and (3) increasing the dissemination of supply chain tracing tools and methodologies to a broad range of stakeholders.

Awards: The duration of the project will be a maximum of 4.5 years (54 months) from the effective date of the award. If applying for both cooperative agreements, applicants may not combine applications into one—they must submit separate applications. Each application should request no more than \$4,000,000 total costs in funding and each application must separately meet all the requirements of this announcement. In the event that the same applicant is selected for award for both cooperative agreements, USDOL reserves the right to issue one cooperative agreement covering both proposals, and to adjust the budget accordingly for administrative costs.

Proposal Deadline: The closing date for receipt of applications under this announcement is September 8, 2020. Applications must be received no later than 4:00:00 p.m. Eastern Time.

Contact Information: Sue Levenstein, Grants Management Specialist. levenstein.susan.l@dol.gov

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Department of Commerce/EDA

Grant Program: STEM Talent Challenge

Agency: U.S. Economic Development Administration (EDA), U.S. Department of Commerce

Website: <https://www.eda.gov/oie/stem/>

Brief Description: EDA is seeking applications from eligible applicants to create and implement innovative science, technology, engineering and mathematics (STEM) apprenticeship models that complement their respective region's innovation economy. The STEM Talent Challenge is authorized under Section 28 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. § 3723). The STEM Talent Challenge seeks to develop or expand regional workforce capacity to support high-growth, high-wage entrepreneurial ventures, industries of the future (which usually includes industries that leverage emerging technologies), and other innovation driven businesses that have a high likelihood of accelerating economic competitiveness and job creation in their respective regions and in the United States. The STEM Talent Challenge is designed to help communities with two activities – planning and development, and program implementation. A total of \$2 million has been appropriated for this program and EDA invites applications that maximize impacts across both activities within this program, though planning and development activities are optional.

Awards: Applicants may not request in excess of \$300,000 over an 18 to 24-month period of performance, of which no more than \$50,000 may support planning and development activities if such support is needed. A total of \$2 million has been appropriated for this program.

Proposal Deadline: The deadline for receipt of applications is 11:59 P.M. EASTERN TIME ON WEDNESDAY, OCTOBER 14, 2020.

Contact Information: For questions concerning this NOFO, you may contact the EDA Office of Innovation and Entrepreneurship: Email: oie@eda.gov; Phone: (202) 482-8001

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EPA

Grant Program: Center for Early Lifestage Vulnerabilities to Environmental Stressors

Agency: Environmental Protection Agency EPA-G2020-STAR-E1

Website: <https://www.epa.gov/research-grants/center-early-lifestage-vulnerabilities-environmental-stressors>

Brief Description: The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications to support a Center for Early Lifestage Vulnerabilities to Environmental Stressors. EPA is interested in supporting a transdisciplinary research center to better understand potential causal relationships among cumulative exposures to chemicals and non-chemical environmental stressors during early lifestages and modifying factors that result in adverse developmental health effects. Developmental health outcomes may include attention deficit/hyperactivity disorder (ADHD), reduced IQ, obesity, lessened self-regulatory capacities, anxiety, depression, attention problems, lower memory function, or structural changes to the brain. The application should include the development and demonstration of novel and revolutionary quantitative methods and approaches to integrate multidisciplinary data (epidemiology, toxicology, exposure science, risk assessment, public health, social science, and environmental science)

Award: Estimated Total Program Funding: \$1,900,000

Submission Deadline: November 12, 2020 : 11:59:59 pm Eastern Time

Contact: echnical Contact: Intaek Hahn, 202-564-4377;

Eligibility Contact: Ron Josephson,202-564-7823; Electronic Submissions Contact: Debra M. Jones, 202-564-7839 [Intaek Hahn](#); [Ron Josephson](#); [DebraM Jones](#)

Grant Program: 2020 RFI for Hydrogen and Fuel Cell Technologies Office (HFTO)

Agency: Environmental Protection Agency DE-FOA-0002379

Website: [EERE Funding Opportunity Exchange](#)

Brief Description: The U.S. Department of Energy's (DOE's) Hydrogen and Fuel Cell Technologies Office (HFTO) within the Office of Energy Efficiency and Renewable Energy (EERE) solicits feedback from industry, academia, research laboratories, government agencies, and other stakeholders through this RFI. This is solely a request for information and not a Funding Opportunity Announcement (FOA). EERE is not accepting applications.

HFTO is issuing a Request for Information to obtain public input on its efforts to accelerate research, development, demonstration, commercialization, and adoption of hydrogen and fuel cell technologies.

This RFI is issued to understand how hydrogen and fuel cell research priorities and goals can address evolving technology needs and to inform related research, development and demonstration (RD&D) activities that may be undertaken by DOE. The information being sought under this RFI is intended to assist HFTO in further defining the scope and priorities of its RD&D initiatives as well as its consortia that were established to address its priorities.

The information collected may be used for internal HFTO planning and decision-making purposes, including but not limited to determining potential new areas of focus, funding opportunities, analyses, and organizational frameworks for national lab-based consortia.

Areas of Interest:

- H2@Scale Initiative
- HFTO Strategy and Multiyear Plan
- Priority Application Focus Areas
- Funding Mechanisms and Opportunities (including consortia models)

Award: TBA

Submission Deadline: Full Application Submission Deadline: 9/15/2020 5:00 PM ET

Contact: HFTORFI@ee.doe.gov

HFTO RFI Inbox, Submit RFI Responses to this Inbox

Grant Program: FY2021 Environmental Workforce Development and Job Training (EWDJT) Grants

Agency: Environmental Protection Agency EPA-OLEM-OBLR-20-03

Website: <https://www.epa.gov/grants/fy2021-environmental-workforce-development-and-job-training-ewdjt-grants>

Brief Description: This notice announces the availability of funds and solicits applications from eligible entities, including nonprofit organizations, to deliver Environmental Workforce Development and Job Training programs that recruit, train, and place local, unemployed and under-employed residents with the skills needed to secure full-time employment in the environmental field. While Environmental Workforce Development and Job Training Grants require training in brownfield assessment and/or cleanup activities, these grants also require that Hazardous Waste Operations and Emergency Response (HAZWOPER) training be provided to all individuals being trained. EPA encourages applicants to develop their curricula based on local labor market assessments and employers' hiring needs, while also delivering comprehensive training that results in graduates securing multiple certifications.

Award: The total funding available under this competitive opportunity for FY 21 is approximately \$3,000,000,

Submission Deadline: September 22, 2020, 11:59 p.m. ET.

Contact: Channing Shepherd, (202) 566-1238. [Channing Shepherd](#)

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Department of Energy

Grant Program: FY 2021 SBIR/STTR Phase I Release 1

Agency: Department of Energy DE-FOA-0002359

Website: <https://science.osti.gov/sbir/Funding-Opportunities>

Brief Description: The Office of Science's mission is to deliver scientific discoveries and major scientific tools to transform our understanding of nature and advance the energy, economic and national security of the United States. The Office of Science is the Nation's largest Federal sponsor of basic research in the physical sciences and the lead Federal agency supporting fundamental scientific research for our Nation's energy future. For more information on the Office of Science mission please visit <https://science.osti.gov/>. The topic below is a collaborative topic among multiple programs in the Office of Science.

1. TECHNOLOGIES FOR MANAGING AND ANALYZING COMPLEX DATA IN SCIENCE AND ENGINEERING

Application Area 1: Advanced Data Analytic Technologies for Systems Biology and Bioenergy

Application Area 2: Technologies and Tools to Integrate and Analyze Data from Multiple User Facilities, Community Resources, Instruments and Data Systems

Application Area 3: Capabilities for Structuring, Mining and Extracting Knowledge from Chemical and Geochemical Data

Application Area 4: Capabilities for Management, Mining and Knowledge Extraction from Materials Databases

2. HPC CODE AND SOFTWARE TOOLS

3. HPC CYBERSECURITY

4. INCREASING ADOPTION OF HPC

5. TECHNOLOGIES FOR SHARING NETWORK PERFORMANCE DATA

6. EMERGING NETWORK TECHNOLOGIES

7. TECHNOLOGIES FOR EXTREME-SCALE COMPUTING

8. TECHNOLOGY TO FACILITATE THE USE OF NEAR-TERM QUANTUM COMPUTING HARDWARE
9. ADVANCED MICROFLUIDICS FOR X-RAY AND ELECTRON BEAMS

Awards: Maximum Phase I Award Amount: \$250,000 Maximum Phase II Award Amount: \$1,600,000

Letter of Intent: Tuesday, September 08, 2020 5:00pm ET

Submission Deadline: Monday, October 19, 2020 11:59pm ET

Contact: Carl Hebron Program Manager Phone 301-903-5707

[Program Manager's Email](#)

Grant Program: FY 2021 Bioenergy Technologies Office Multi-Topic Request for Information (RFI)

Agency: Department of Energy DE-FOA-0002386

Website: <https://eere-exchange.energy.gov/#FoaId6d7106e1-070a-4c46-bf34-35083498252f>

Brief Description: The purpose of this Request for Information (RFI) is to solicit feedback from industry, academia, research laboratories, government agencies, and other stakeholders on issues related to overcoming the technical barriers and challenges in the design of clean, efficient residential scale wood heaters and in bioprocessing separations development. EERE is specifically interested in information on the following areas:

Topic Area 1 - Residential Wood Heater Technology Advancement: Identifying the critical technology gaps and resources required to significantly reduce emissions and improve efficiency of residential wood heaters.

Topic Area 2 - Bioprocessing Separations Development: Identifying the critical technology gaps and research needs required to enable more efficient separations technologies spanning biochemical and thermochemical approaches.

Awards: TBD

Letter of Intent: N/A

Submission Deadline: Responses to this RFI must be submitted electronically to FY21MultiTopic@ee.doe.gov no later than 5:00pm (ET) on September 21, 2020.

Contact: FY21BETOMultiTopic@ee.doe.gov

For responses to this Request for Information

Grant Program: Solar Energy Technologies Office Fiscal Year 2020 Perovskite Funding Program

Agency: Department of Energy DE-FOA-0002357

Website: <https://eere-exchange.energy.gov/#FoaId4f6953d0-ac25-44f6-b99a-ce04f8e119d6>

Brief Description: This funding opportunity announcement (FOA) is being issued by the U.S. Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) Solar Energy Technologies Office (SETO). SETO supports solar energy research and development (R&D) with the goal of improving the affordability, reliability, and domestic benefit of solar technologies.

The SETO 2020 Perovskite Funding Program seeks to advance perovskite photovoltaic technology development and competitiveness through projects in economically viable device and manufacturing R&D and performance validation. The primary goals are to improve understanding of stability; establish methods to produce high-efficiency, stable devices using industry-relevant fabrication techniques; and develop test protocols that enable high confidence in long-duration field performance of perovskite-based photovoltaic technologies.

Awards: Various; Anticipated Available Funding: \$20,000,000

Letter of Intent: Concept Paper Submission Deadline: 9/23/2020 5:00 PM ET

Submission Deadline: Full Application Submission Deadline: 12/1/2020 5:00 PM ET

Contact: seto.pvsk.foa@ee.doe.gov

Grant Program: American-Made Solar Prize

Agency: Department of Energy National Renewable Energy Lab (NREL)

Website: <https://www.herox.com/solarprizeround4>

Brief Description: The American-Made Solar Prize is a \$3M competition organized by NREL to revitalize the US ecosystem of innovators and entrepreneurs in solar. Our goal is to rapidly develop new solar solutions and bring them to market.

The Solar Prize is an opportunity for anyone interested in accelerating ideas and solutions. The American-Made Network is designed to strengthen and scale the very best ideas and teams through three progressive prize competitions, the Ready! Set! Go! Contests. This network provides the tools and expertise to help projects succeed and is comprised of an unparalleled innovation system. These resources will provide technical insight, product validation, and strategic support to teams throughout the competition. **Competing in the prize is easy!**

1. Identify an important problem you want to solve
2. Submit a 90-second video describing your challenge and proposed solution, team, and plan
3. Answer a short, four-question narrative and make a slide about this problem or challenge
4. Submit a two-page technical assistance request
5. Update your videos and statements as you advance through the contests.

Read more about preferred innovation approaches for the Prize at our [ProblemSpace](#) platform or attend the [Solar Prize information webinar](#) hosted by NREL on 8/19. When you're ready to go, share your idea at the [American-Made Solar Prize](#) application site.

Awards: Winning teams receive *up to \$500K in non-dilutive funding* in addition to in-kind support from the National Labs. To date, 60 winners from 23 different states have been selected over 3 rounds for a total of \$9M in funding

Letter of Intent: Please visit the [How to Compete in the American-Made Solar Prize page](#) to view the full rules for the American-Made Challenges Solar Prize.

Submission Deadline: October 8, 2020

Contact: Chris Richardson [ADL Ventures](#) - [Email](#)

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NASA

Grant Program: ROSES 2020: Carbon Cycle Science

Agency: NASA NNH20ZDA001N-CARBON

Website: <https://nspires.nasaprs.com/external/solicitations/summary.do?solId={4613663C-BD94-C1FF-E216-5032790DD390}&path=&method=init>

Brief Description: The Marine and Terrestrial Ecosystems and Natural Resources Management Panel of the 2017 Decadal Survey for Earth Science and Applications from Space (ESAS) of the National Academies of Sciences, Engineering, and Medicine (NASEM) Thriving on Our Changing Planet: A Decadal Strategy for Earth Observations from Space identified several science and application questions which are essential to understanding how the Earth system is changing, what the impact to ecosystems may be, how this may affect the services they provide (i.e., benefits people obtain from ecosystems, such as provisioning of water and food and absorbing human-generated carbon dioxide from the atmosphere),

and how the structure of these ecosystems affects the fluxes of carbon, nutrients, and energy between and across the Earth system. In addition, recent investments in synthesis research, such as the Second State of the Carbon Cycle Report (SOCCR2), as well as recent meetings, for example the 2019 OCB OceanAtmosphere Interactions workshop and 2019 AGU Chapman Conference on Understanding Climate-Carbon Feedbacks, have highlighted key priority areas of research needed to fill important scientific knowledge gaps that will help inform decision-making stakeholders about carbon management and mitigation strategies and improved resilience

Awards: Expected total program budget: \$4.5M/year

Notice of Intent: September 28, 2020

Proposal Deadline: December 3, 2020

Contact: Laura Lorenzoni, Program Manager, Ocean Biology and Biogeochemistry Program

Telephone: (202) 358-0197 Email: Laura.Lorenzoni@nasa.gov

Grant Program: ROSES 2020: Science Team for the OCO Missions

Agency: NASA NNH20ZDA001N-OCOST

Website: <https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7B7B9745C4-04AD-74F8-59B7-3CF0C8EF15E3%7D&path=&method=init>

Brief Description: Proposals are solicited for participation in the Science Team for the Orbiting Carbon Observatory-2 (OCO-2) and Orbiting Carbon Observatory-3 (OCO-3) missions. NASA launched the OCO-2 mission in July 2014. OCO-2 has been operating on orbit, producing precise column average CO₂ concentration data globally with validated precision and accuracy of better than 0.25% , since September 2014. The OCO-3 mission, with a near-replica instrument to OCO-2, has been operating on the International Space Station (ISS) since June of 2019 and is now returning data with similar precisions as OCO-2. The primary differences in the data sets are the spatial and temporal sampling as a result of the different orbits of the observations (especially inclination) and the available observational modes of the instruments.

Awards: Funding anticipated: \$3,500,000

Notice of Intent: November 13, 2020

Proposal Deadline: January 13, 2021

Contact: Kenneth W. Jucks, Earth Science Division, Science Mission Directorate, NASA Headquarters Washington, DC 20546-0001 Telephone: 202-358-0476 Email: kenneth.w.jucks@nasa.gov

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National Endowment of Humanities

Grant Program: Humanities Connections

Agency: National Endowment for the Humanities 20200930-AKA-AKB

Website: <https://www.neh.gov/grants/education/humanities-connections>

Brief Description: The Humanities Connections program seeks to expand the role of the humanities in undergraduate education at two- and four-year institutions. Awards support innovative curricular approaches that foster productive partnerships among humanities faculty and their counterparts in the social and natural sciences and in pre-service or professional programs (such as business, engineering, health sciences, law, computer science, and other technology-driven fields), in order to encourage and develop new integrative learning opportunities for students.

Proposal Deadline: Optional Draft due August 31, 2020; Application due September 30, 2020

Contact: Contact the Division of Education Programs Team humanitiesconnections@neh.gov

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Private Foundations

Activate.ORG

Grant Program: Activate Fellowships

Agency: Activate.org

Website: <https://www.activate.org/>

Brief Description: We exist to discover, fund, champion, and propel individuals who have a technology vision that could benefit society and who are committed to bringing it to the world as a new product or business. Every year, we work with our partners to select a cohort of entrepreneurial scientists and engineers from around the world to be fellows. For two years these innovators embed in a world-class research institution, where they are supported with funding, mentorship, education, and connections with our network of industry leaders, investors, and philanthropists.

Awards: Fellows receive a yearly living stipend of \$80,000 to \$110,000 plus a health insurance stipend and travel allowance. Each project also receives \$100,000 of research support at the host laboratory.

Proposal Deadline: Applications open early October

Contact: If interested, please contact Dr. Michael Ehrlich, Associate Professor, Martin Tuchman School of Management, and Co-Director of NJ Innovation Acceleration Center at michael.a.ehrlich@njit.edu

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Streamlyne Question of the Week

Question: How can I update my eRA Commons ID for all future NIH proposals?

Answer: Go to Main Menu>Setting>Person Extended Attributes, click "Edit", enter it under "eRA Commons User Name" and submit the change/update.

More FAQs on Streamlyne: Please visit <https://research.njit.edu/streamlyne>

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Proposal Submission and Streamlyne Information

Internal Timeline for Successful and Timely Proposal Submission

Due to the COVID-19 outbreak, PIs are strongly advised to prepare proposals well in advance of agency deadlines. Every effort will be made to meet agency deadlines following the NJIT Research Continuity Plan (<https://research.njit.edu/njit-research-continuity-plan>).

The NJIT Proposal Submission Guidelines and Policy posted on the website <https://research.njit.edu/proposal-submission-guidelines> provides the expected institutional timeline for

proposal submission. Streamlyne User Manuals are posted on <https://research.njit.edu/streamlyne>. For contact information on proposal submission, pre-award services and post-award grant management, please visit research website <https://research.njit.edu/researchers> and <https://research.njit.edu/contact>.

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