

NJIT Research Newsletter

Issue: ORN-2020-44

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

2020 NJIT Panel Discussion on NSF CAREER Grant Proposal Preparation WebEx Meeting Video Recording

Information about NSF Faculty Early Career Development Program (CAREER): [NSF-20-525](#)

The video recording of the 2020 NJIT Panel Discussion on NSF CAREER Grant event held on November 2, 2020 via WebEx is now available on [NJIT NSF CAREER Panel Discussion-EDIT MASTER.mp4](#). The event highlights the requirements for NSF CAREER award and shares the experiences and best practices of NJIT faculty members who recently received the prestigious NSF CAREER award.

Faculty panelists:

- Hieu Nguyen, Electrical and Computer Engineering; Area: Nanostructures and Optoelectronics; <https://people.njit.edu/faculty/hpnguyen>
- Cong Wang, Electrical and Computer Engineering; Area: Robotics, <https://people.njit.edu/faculty/wangcong>
- Gennady Gor, Chemical and Material Engineering; Area: Porous Materials and Membranes; <https://people.njit.edu/faculty/gor>
- Senjuti Basu Roy, Computer Science; Area: Big Data Analytics and Machine Intelligence; <https://people.njit.edu/faculty/senjutip>

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: Designing Materials to Revolutionize and Engineer our Future (DMREF); Addressing Systems Challenges through Engineering Teams (ASCENT); NSF/CASIS Collaboration on Tissue Engineering and Mechanobiology on the International Space Station (ISS) to Benefit Life on Earth; Harnessing the Data Revolution (HDR): Institutes for Data-Intensive Research in Science and Engineering; EPSCoR Research Infrastructure Improvement Program: RII Track-2 FEC; Integrative Strategies for Understanding Neural and Cognitive Systems (NCS); Mid-Career Advancement (MCA); EarthCube: Developing a Community-Driven Data and Knowledge Environment for the Geosciences; Human Networks and Data Science (HNDS); Principles and Practice of Scalable Systems (PPoSS); Research on Integrated Photonics Utilizing AIM Photonics Capabilities; Cybersecurity Innovation for Cyberinfrastructure (CICI); Accelerating Research through International Network-to-Network Collaborations (AccelNet); Partnerships for Research and Education in Materials (PREM)
NIH: Regional Technology Transfer Accelerator Hubs for IDeA States (STTR) (UT2); BRAIN Initiative Cell Census Network (BICCN) Scalable Technologies and Tools for Brain Cell Census

(R01); Discovery of in vivo Chemical Probes for the Nervous System (R01); BRAIN Initiative Fellows (F32); BRAIN Initiative: Pilot resources for brain cell type-specific access and manipulation across vertebrate species (U01)

Department of Defense/US Army/DARPA/ONR: Science & Technology for Advanced Manufacturing Projects (STAMP); Energetics Basic Research Center Fiscal Year 2022; Young Faculty Award (YFA); 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: Community Connect Grant Program; Agriculture and Food Research Initiative - Foundational and Applied Science

Department of Labor: Supply Chains Tracing Project

Department of Commerce/EDA: FY2021 to FY2023 NOAA Broad Agency Announcement (BAA); FY2021 Marine Debris Research

EPA: Viral Pathogen and Surrogate Approaches for Assessing Treatment Performance in Water

Department of Energy: Computational Chemical Sciences; Atmospheric System Research (ASR); Early Career Research Program; Connected Communities

NASA: ROSES 2020: Future Investigators in NASA Earth and Space Science and Technology; ROSES 2020: Planetary Major Equipment and Facilities; University Student Research Challenge

National Endowment of Humanities: Collaborative Research; Digital Humanities Advancement Grants; Scholarly Editions and Scholarly Translations

Private Foundations: New Jersey Health Foundation: Innovation Grants Program

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Recent Research Grant and Contract Awards

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

PI: Farnaz Shakib (PI)

Department: Chemistry and Environmental Sciences

Grant/Contract Project Title: Adsorptive Desulfurization of Petroleum using 2D and 3D Nano-Porous Metal- Organic Frameworks

Funding Agency: American Chemical Society

Duration: 01/01/21-08/31/23

PI: Michel Boufadel (PI)

Department: Center for Natural Resources

Grant/Contract Project Title: Characterization and Modeling of Water Mixing Energies and Particle Behavior during Wave Generation in CanmetEnergy-Devon Spill Test Tanks

Funding Agency: Department of Fisheries & Oceans (Canada -Govt)

Duration: 10/28/20-03/31/22

PI: Haimin Wang (PI) and Yan Xu (Co-PI)

Department: Center for Solar Terrestrial Research

Grant/Contract Project Title: Study of Global-Scale Surface Flows and Migration of Polar Crown Filaments of the Sun in Past 10 Solar Cycles in Comparison with Helioseismology Results in 2 Recent Cycles

Funding Agency: NASA

Duration: 12/01/19-11/30/23

PI: James Lipuma (PI)

Department: Humanities

Grant/Contract Project Title: The 21st CCLC Grant for Professional Learning from NJIT

Funding Agency: NJ Department of Education

Duration: 09/01/20-08/31/21

PI: Simon Laurent (PI) and Crystal Smith (Co-PI)

Department: EOP

Grant/Contract Project Title: Louis Stokes STEM Pathways and Research Alliance: Garden State LSAMP

Funding Agency: NSF

Duration: 03/01/19-02/28/21

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In the News...

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

DoD Cybersecurity Maturity Model Certification Program: The Defense official in charge of rolling out the department’s Cybersecurity Maturity Model Certification program suggested it might be necessary to revise the standard to address high costs associated with validating procurements at the very top of its tiered model. “There’s a lot of discussion I think yet to be had on level four and five,” Katie Arrington, the DOD’s CMMC lead, said. “Is it all the controls in level four? Or is it a you know, à la carte that you need to be able to meet 50% of the controls in level four, to get certification? Because it’s very expensive. And is there the [return on investment] on implementing all those controls? Do we need to modify the CMMC?” Department officials realize and accept under a new rule that vendors will include the cost of the cybersecurity certification in their proposals. Arrington briefed members of the defense contracting community Wednesday during a webinar hosted by Project Spectrum, an education and training initiative supported by the department’s Office of Small Business Programs. More information is on the [Nextgov website](#).

VA Makes Moves to 3D Print and Produce Medical Devices In-House: The Veterans Health Administration’s sights are set on forming medical device manufacturing facilities—inside their hospitals—to push forward personalized patient care, and steer the production of health-related instruments from when they first emerge, through to the point when they’re fully cleared for use by the Food and Drug Administration. Additive manufacturing solutions provider 3D Systems [announced](#) Thursday it’s linked up with the federal agency to advance the effort. “Through this collaboration, 3D Systems will not only be installing 3D printers at the VHA sites, but we’ll also be helping them install a quality management system that includes the processes, documentation, and training required to be compliant as a medical device manufacturer,” Ben Johnson, the company’s director

of product development, healthcare said in a statement. 3D Systems engineers and sells 3D printing software, hardware, services, materials, and more, and it's been around for more than 30 years. It's co-founder, Chuck Hall, is [credited](#) with first [inventing](#) stereolithography, a form of 3D printing. In this VHA-led effort, 3D Systems will offer up its advanced printers and materials, as well as workflows and software to the agency. The business' healthcare additive manufacturing team will also work directly with VHA to design medical devices and move them through FDA clearance. More information is on the [Nextgov website](#).

NASA VR Planning New Ways to Show the World Its Future Moon Missions: In an [announcement for proposals](#) released Thursday, NASA voiced its intent to link up with outside entities that can advance and accelerate its use of innovative technologies like virtual reality, as well as novel approaches and imagery applications to excite people across the planet and inspire a new generation of explorers, during its planned missions that are set to unfold in the very near future. “We want to capture the awe of Apollo for a new generation—the Artemis Generation,” NASA Administrator Jim Bridenstine said in a statement. “Just as people were glued to the TV 50 years ago as astronauts took the first steps on the Moon, we want to bring people along in this new era of exploration.” Collectively deemed “Artemis,” NASA's latest, weighty effort will incorporate three missions—Artemis I, II and III—in hopes to establish a sustainable presence on the moon, which would underpin its ultimate goal to send humans to Mars. The first mission is slated for next year and will mark the first flight of the Orion capsule aboard NASA's Space Launch System rocket on an uncrewed mission to orbit the Moon and return. The agency will make a return journey by humans around the moon and back for Artemis II, which is planned for 2023—and in 2024, Artemis III will deliver the first woman and the next man to the lunar surface. More information is posted on the [website](#).

Agile Cyber-Platforms: The federal government's forced shift to telework in the wake of COVID-19 was not just a blip on the radar; the Senate [recently introduced a bill](#) to keep federal employees working remotely as the pandemic continues to linger. Already, the *en masse* transition to remote work has forced many agencies to take a fresh look at their cybersecurity infrastructure. While telework means newfound flexibility from an employee perspective, it also means a potentially expanded attack surface for adversaries. Telework, or more likely the desire, ability, and acceptance to work away from the office, will persevere long after COVID-19 is behind us. To deal with this increased risk, many cyber leaders are focusing on agility. In a [recent survey on federal cybersecurity](#) from Meritalk and Forcepoint, many IT leaders listed cyber agility as a key ingredient in their ideal cyber strategy. And yet, for far too many, agility simply means chasing fires by continuing to purchase the latest flashy technology from the industry's ever-growing pool of vendors. In order to be agile enough to deal with adversarial evolution, agencies must instead invest in their cyber *platform*. Platforms allow for rapid innovation in a way that bringing on disparate new vendors does not. Adversaries move in seconds but government agencies and organizations move much more slowly, in part because contracting and deployment eats up precious time. Agencies must integrate their newest vendor into their workflow, which requires tremendous training, a long rollout, and massive time lags. It's days, minutes, seconds vs. months, years, and not possible, not a winning hand in the game of cyber. With platforms, though, agencies can build on their existing contract and customer support to upgrade and enable features as they're needed, with only incremental training and policy changes. Integrating new cyber capabilities into the existing platform will save employees from having to learn and consolidate a new technology repeatedly—an unsustainable task, particularly given the cyber workforce's [severe shortage](#). More on the [NexGov website](#).

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Webinar and Events

Event: Emerging Frontiers in Research and Innovation Office Hour

Sponsor: NSF

When: November 9, 2020, 2020 12.00 PM – 1.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301548&org=NSF

Brief Description: The Directorate for Engineering is offering an office hour on Monday, November 9th at 12 noon Eastern time to discuss the FY 2021 solicitation for [Emerging Frontiers in Research and Innovation \(NSF 20-614\)](#). The solicitation topics are:

- Distributed Chemical Manufacturing (DCheM)
- Engineering the Elimination of End-of-Life Plastics (E3P)

Program Directors will describe the EFRI program, review the two topics described in the solicitation, and provide a forum to receive and answer questions.

To Join the Webinar: Join the one-hour webinar

at <https://nsf.zoomgov.com/j/1604916313?pwd=bTNpZkJTOVJ2V21EamJSYmFRMWIZUT09>

Event: Virtual NSF Grants Conference

Sponsor: NSF

When: November 16, 2020 1:00 PM to November 20, 2020 4:00 PM

November 30, 2020 1:00 PM to December 4, 2020 4:00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301319&org=NSF

Brief Description: Join the National Science Foundation (NSF) for the very first NSF Virtual Grants Conference to be held during the weeks of November 16 and November 30, 2020. Registration will be free of charge and opens on **Thursday, October 29 at 12PM EST**.

This event is designed to give faculty, researchers and administrators key insights into a wide range of current issues at NSF. NSF staff will provide up-to-date information about the proposal and award process, specific funding opportunities and answering attendee questions.

Just like the in-person grants conferences, the NSF Virtual Grants Conference is a must, especially for new faculty, researchers and administrators.

Highlights include:

- New programs and initiatives
- Future directions and strategies for national science policy
- Proposal preparation
- NSF's merit review process
- Conflict of interest policies
- Award Management Topics
- NSF-wide funding opportunities

For those who cannot attend the live conference, all sessions will be recorded and available on-demand shortly after the event.

Please check the [conference website](#) for the most-up-to-date information, and view recordings of sessions from last year's conference.

To Join the Webinar: Please check the conference website <https://nsfpolicyoutreach.com/>.

Event: Deep Dive Into Deep Tech Incubation Workshop

Sponsor: NSF

When: November 18, 2020 12.00 PM – 1.00 PM

December 18, 2020 12.00 PM – 1.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301160&org=NSF

Brief Description: Part III: Wednesday, November 18, 12 pm Eastern (60 min)

Deep Tech Incubation and Academia Nexus

Deep tech innovation is often born out of academic research at campuses across the nation. As a result, colleges and universities play a unique and critical role in fostering the development and commercialization of technologies that will transform our lives. The technology discovery and transfer processes can be especially risky for deep tech innovations given the complexity of scaling them from lab to market and understanding potential commercial applications. However, colleges and universities remain at the forefront of deep tech incubation. Their people and programs that support this research translation process directly impact the strength and competitiveness of technology innovation in the U.S. The third part of the Deep Dive Into Deep Tech Incubation webinar series will feature visionaries from leading academic institutions to discuss this research translation nexus and how they manage the deep tech commercialization process and instill strong entrepreneurial cultures at their respective campuses.

Part IV: Friday, December 18, 12 pm Eastern (60 min)

Deep Tech Venture Capital and Corporate Partnerships

Deep tech startups typically require significant capital and time to get their innovations into the market. More and more financial investors have entered this space as they view the outsize financial returns that are possibly worth the risk of supporting deep tech startups. In addition, more corporate and strategic partners are competing by investing in innovation, whether it is structured as direct investments in early-stage companies or other forms of support like joint ventures or non-recurring engineering. These venture capital and corporate partnerships provide highly valuable validation for deep tech startups, which enables them to raise follow-on capital and secure the partnerships that are critical to commercializing their technology. The fourth and final part of the Deep Dive Into Deep Tech Incubation webinar series will feature top investors and corporations who are actively partnering with deep tech startups as well as entrepreneurs who have benefited from this type of support.

To Join the Webinar: Register at <https://www.eventbrite.com/e/deep-dive-into-deep-tech-incubation-series-tickets-114163867200>

Event: Virtual Office Hours on Broader Impacts and Broadening Participation with ARIS

Sponsor: NSF

When: November 18, 2020, 2020 2.00 PM – 3.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301227&org=NSF

Brief Description: Join BIO program officers in a discussion of Broader Impacts with guest speaker Susan Renoe from the NSF-supported Center for Advancing Research Impact in Society (ARIS) <https://www.researchinsociety.org>

To Join the Webinar: Click [here](#) to register and select the November 18, 2020 option from the drop-down selection for "Time."

Event: DMS Virtual Office Hours

Sponsor: NSF

When: November 24, 2020, 2020 1.00 PM – 2.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301593&org=NSF

Brief Description: The Division of Mathematical Sciences (DMS) is hosting virtual office hours to share information about NSF's current operations and provide guidance to the mathematical sciences community. This will also allow the community to ask questions, share concerns, or offer suggestions on how DMS can do more to address the impact of COVID-19 on the research community. All members of the mathematics research community interested in the work of DMS are welcome to attend. Events are planned at roughly monthly intervals, and the topics will vary for each event. The event will be in the

form of a webinar, starting with a brief presentation of a few selected current topics, with DMS program directors available to answer questions from the community.

To Join the Webinar: Participants should register (and may do so in advance) at the web page https://nsf.zoomgov.com/webinar/register/WN_IzD3kGybQuWsgJXLYBGgBA

After registering, you will receive a confirmation email containing information about joining the webinar.

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[Grant Opportunities](#)

[National Science Foundation](#)

Grant Program: Designing Materials to Revolutionize and Engineer our Future (DMREF)

Agency: National Science Foundation NSF 21-522

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21522/nsf21522.htm>

Brief Description: DMREF is the primary program by which NSF participates in the [Materials Genome Initiative \(MGI\) for Global Competitiveness](#). MGI recognizes the importance of materials science and engineering to the well-being and advancement of society and aims to "deploy advanced materials at least twice as fast as possible today, at a fraction of the cost." MGI integrates materials discovery, development, property optimization, and systems design with a shared computational framework. This framework facilitates collaboration and coordination of research activities, analytical tools, experimental results, and critical evaluation in pursuit of the MGI goals. Consistent with the [MGI Strategic Plan](#), DMREF highlights four sets of goals:

- Leading a culture shift in materials science and engineering research to encourage and facilitate an integrated team approach;
- integrating experimentation, computation, data-intensive/-driven approaches, and theory, and equipping the materials science and engineering communities with advanced tools and techniques;
- making digital data findable, accessible, interoperable, and reusable, and useful to the community; and
- creating a world-class materials science and engineering workforce that is trained for careers in academia or industry.

Awards: Standard Grants; Anticipated Funding Amount: \$40,000,000

Letters of Intent: Not required

Proposal Submission Deadline: January 11, 2021 - January 25, 2021

Contacts: John Schlueter, Team Lead, MPS/DMR, telephone: (703) 292-7766, email: jschluet@nsf.gov

- Peter Anderson, MPS/DMR, telephone: (703) 292-4507, email: peanders@nsf.gov
 - Marian Bocea, MPS/DMS, telephone: (703) 292-2595, email: mbocea@nsf.gov
-

Grant Program: Designing Materials to Revolutionize and Engineer our Future (DMREF) Addressing Systems Challenges through Engineering Teams (ASCENT)

Agency: National Science Foundation NSF 21-521

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21521/nsf21521.htm>

Brief Description: The Electrical, Communications and Cyber Systems (ECCS) Division supports enabling and transformative research that fuels progress in engineering applications with high societal impacts. ECCS programs encompass novel electronic, photonic, and magnetic devices; communication

systems, novel integrated circuits, antennas, sensors; machine learning, control, and networks, to name a few. The fundamental research supported by ECCS impacts a wide range of applications such as communications, energy and power, healthcare, environment, transportation, manufacturing, and other areas. ECCS strongly emphasizes the integration of education into its research programs to support the preparation of a diverse and professionally skilled workforce. ECCS also strengthens its programs through links to other areas of engineering, science, industry, government, and international collaborations.

The **Addressing Systems Challenges through Engineering Teams (ASCENT)** program is a strategic investment of ECCS that emphasizes new collaboration modalities among the various ECCS supported sub-disciplines. ASCENT encourages robust collaborations between the devices, circuits, algorithmic, and network research communities to develop innovative projects. ASCENT seeks proposals that are bold and ground-breaking transcending the perspectives and approaches typical of disciplinary research efforts. ASCENT projects are expected to lead to disruptive technologies or nucleate entirely new research fields motivated by the most pressing societal challenges the global community faces.

Awards: Standard Grant or Continuing Grant; Anticipated Funding Amount: \$6,000,000

Letters of Intent: Please see below.

Proposal Submission Deadline:

- **Preliminary Proposal Due Date(s) (required)** (due by 5 p.m. submitter's local time):

January 25, 2021

Preliminary Proposal

- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):

May 03, 2021

Full Proposal by Invitation Only

Contacts: Ruyan Guo, telephone: (703) 292-7718, email: rguo@nsf.gov

- Aranya Chakraborty, telephone: (703) 292-8113, email: achakrab@nsf.gov

- Mohammad Ali, telephone: (703) 292-4632, email: moali@nsf.gov

Grant Program: NSF/CASIS Collaboration on Tissue Engineering and Mechanobiology on the International Space Station (ISS) to Benefit Life on Earth

Agency: National Science Foundation NSF 21-520

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21520/nsf21520.htm>

Brief Description: The Divisions of Chemical, Bioengineering and Environmental Transport (CBET) and Civil, Mechanical, and Manufacturing Infrastructure (CMMI) in the Engineering Directorate of the National Science Foundation (NSF) are partnering with The Center for the Advancement of Science in Space (CASIS) to solicit research projects in the general fields of tissue engineering and mechanobiology that can utilize the International Space Station (ISS) National Lab to conduct research that will benefit life on Earth. For utilization of the ISS National Lab through this solicitation, entities must qualify as "U.S. Persons" under 22 U.S. Code §6010: "'United States person' means any United States citizen or alien admitted for permanent residence in the United States, and any corporation, partnership, or other organization organized under the laws of the United States."

Awards: Standard Grants; Anticipated Funding Amount: \$1,600,000

Letters of Intent: Not required

Proposal Submission Deadline: March 01, 2021

Contacts: Laurel C. Kuxhaus, telephone: (703) 292-4465, email: lkuxhaus@nsf.gov

- Stephanie George, telephone: (703) 292-7825, email: stgeorge@nsf.gov

Grant Program: Harnessing the Data Revolution (HDR): Institutes for Data-Intensive Research in Science and Engineering

Agency: National Science Foundation NSF 21-519

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21519/nsf21519.htm>

Brief Description: 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. This solicitation will establish a group of HDR Institutes for data-intensive research in science and engineering that can accelerate discovery and innovation in a broad array of research domains. The HDR Institutes will lead innovation by harnessing diverse data sources and developing and applying new methodologies, technologies, and infrastructure for data management and analysis. The HDR Institutes will support convergence between science and engineering research communities as well as expertise in data science foundations, systems, applications, and cyberinfrastructure. In addition, the HDR Institutes will enable breakthroughs in science and engineering through collaborative, co-designed programs to formulate innovative data-intensive approaches to address critical national challenges.

Awards: Cooperative Agreement; Anticipated Funding Amount: \$70,000,000

Letters of Intent: Not required

Proposal Submission Deadline: January 21, 2021

Contacts: Amy L. Walton, telephone: (703) 292-4538, email: HDR-DIRSE@nsf.gov

- Christopher W. Stark, telephone: (703) 292-4869, email: HDR-DIRSE@nsf.gov
- Giovanna Biscontin, telephone: (703) 292-8360, email: HDR-DIRSE@nsf.gov

Grant Program: EPSCoR Research Infrastructure Improvement Program: Track-2 Focused EPSCoR Collaborations (RII Track-2 FEC)

Agency: National Science Foundation NSF 21-518

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21518/nsf21518.htm>

Brief Description: The Established Program to Stimulate Competitive Research (EPSCoR) is designed to fulfill the mandate of the National Science Foundation (NSF) to promote scientific progress nationwide. A jurisdiction is eligible to participate in NSF EPSCoR if their most recent 5-year level of total NSF funding is equal to or less than 0.75% of the total NSF budget subject to certain exclusions. Jurisdictions above 0.75% but less than 0.80% are allowed to remain EPSCoR-eligible for up to 5 years. For more details, see: https://www.nsf.gov/od/oia/programs/epscor/Eligibility_Tables/FY2021_Eligibility.pdf. Through this program, NSF establishes partnerships with government, higher education, and industry that are designed to effect sustainable improvements in a jurisdiction's research infrastructure, Research and Development (R&D) capacity, and hence, its R&D competitiveness.

RII Track-2 FEC builds interjurisdictional collaborative teams of EPSCoR investigators in scientific focus areas consistent with NSF priorities. Projects are investigator-driven and must include researchers from at least two EPSCoR eligible jurisdictions with complementary expertise and resources necessary to address challenges, which neither party could address as well or rapidly independently. The Science, Technology, Engineering, and Mathematics (STEM) research and education activities should seek to broaden participation through the strategic inclusion and integration of diverse individuals, institutions, and sectors throughout the project. Proposals must describe a comprehensive and integrated vision to drive discovery and build sustainable STEM capacity that exemplifies diversity of all types (individual, institutional, geographic, and disciplinary). The development of diverse early-career faculty is a critical component of this sustainable STEM capacity. For FY 2021, RII Track-2 FEC proposals are invited on a single topic: “**Advancing research towards Industries of the Future to ensure economic growth for EPSCoR jurisdictions.**”

Awards: Cooperative Agreement; **Anticipated Funding Amount:** \$7,000,000 to \$10,500,000

Planning Grants: Up to \$250,000 per award with duration up to 1 year.

LARGE Grants: Up to \$1,000,000 per year with duration up to 5 years.

Letters of Intent: December 18, 2020

Proposal Submission Deadline: January 25, 2021

Contacts: John-David Swanson, telephone: (703) 292-2898, email: jswanson@nsf.gov

- Jose Colom-Ustariz, telephone: (703) 292-7088, email: jcolom@nsf.gov
 - Eric W. Lindquist, telephone: (703) 292-7838, email: elindqui@nsf.gov
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Grant Program: Integrative Strategies for Understanding Neural and Cognitive Systems (NCS)

Agency: National Science Foundation NSF 21-517

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21517/nsf21517.htm>

Brief Description: This program calls for innovative, convergent, boundary-crossing proposals that can best capture those opportunities and map out new research frontiers. NSF seeks proposals that pursue high-value scientific and technical risks by transcending the perspectives and approaches typical of disciplinary research efforts. This cross-directorate program is one element of NSF's participation in the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative (<https://www.nsf.gov/brain/>). NSF envisions a connected portfolio of transformative, integrative projects that create synergistic links across investigators and communities, yielding novel ways of tackling the challenges of understanding the brain in action and in context.

This solicitation extends the NCS program for three years, from FY2021 through FY2023, including biennial competitions for the FRONTIERS proposal class.

The program focuses on four aspects of neural and cognitive systems that are current targets of converging interdisciplinary interests. NCS projects must advance the foundations of one or more of these focus areas, as described further within the solicitation:

1. *Neuroengineering and Brain-Inspired Concepts and Designs*
2. *Individuality and Variation*
3. *Cognitive and Neural Processes in Realistic, Complex Environments*
4. *Data-Intensive Neuroscience and Cognitive Science*

Proposals must address both risk and reward: **high-risk, high-payoff approaches are expected.** Proposals must also go **beyond the scope of any NSF core program**, or they will not be considered responsive to this solicitation.

Awards: NCS will consider two classes of proposals. **FOUNDATIONS** awards will support high-risk, high-payoff projects that advance the foundations of one or more NCS focus areas. **FRONTIERS** awards (FY2021 and FY2023 competitions only) will support ambitious, highly integrative, interdisciplinary projects that advance and connect multiple integrative research threads to tackle challenges that would be intractable without a high level of collaboration and coordination. \$11,000,000 to \$15,000,000

Letters of Intent: December 15, 2020

Proposal Submission Deadline: February 15, 2021

Contacts: Anindya Banerjee, Program Director, CISE/CCF, telephone: (703) 292-7885, email: abanerje@nsf.gov

- Wei Ding, Program Director, CISE/IIS, telephone: (703) 292-8017, email: weiding@nsf.gov
 - Rudolf Eigenmann, CISE/CCF, telephone: (703) 292-8910, email: reigenma@nsf.gov
-

Grant Program: Mid-Career Advancement (MCA)

Agency: National Science Foundation NSF 21-516

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21516/nsf21516.htm>

Brief Description: The MCA offers an opportunity for scientists and engineers at the Associate Professor rank (or equivalent) to substantively enhance and advance their research program through synergistic and mutually beneficial partnerships, typically at an institution other than their home institution. Projects that envision new insights on existing problems or identify new but related problems previously inaccessible without new methodology or expertise from other fields are encouraged.

Partners from outside the PI's own sub-discipline or discipline are encouraged, but not required, to enhance interdisciplinary networking and convergence across science and engineering fields.

By (re)-investing in mid-career investigators, NSF aims to enable and grow a more diverse scientific workforce (more women, persons with disabilities, and underrepresented minorities) at high academic ranks, who remain engaged and active in cutting-edge research.

The MCA is the only cross-directorate NSF program specifically aimed at providing protected time and resources to established scientists and engineers targeted at the mid-career (Associate Professor rank or equivalent) stage. Participating programs in the Directorates for Biological Sciences (BIO), Geosciences (GEO), Engineering (ENG), Social, Behavioral and Economic Sciences (SBE), and Education and Human Resources (EHR) will accept MCA proposals. PIs are encouraged to discuss the suitability of their MCA proposal with a program officer from the appropriate directorate (see https://www.nsf.gov/bio/MCA_contacts.jsp).

Awards: Standard Grant; **Anticipated Funding Amount:** \$14,000,000 to \$18,000,000

Letters of Intent: Not required

Proposal Submission Deadline: February 01, 2021

Contacts: MCA Cognizant Program Officers, telephone: (703) 292-4628, email: MCA.info@nsf.gov

Grant Program: EarthCube: Developing a Community-Driven Data and Knowledge Environment for the Geosciences

Agency: National Science Foundation NSF 21-515

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21515/nsf21515.htm>

Brief Description: EarthCube is a community-driven activity sponsored through a partnership between the NSF Directorate for Geosciences (GEO) and the Office of Advanced Cyberinfrastructure (OAC) within the Directorate for Computer & Information Science & Engineering (CISE) to transform research in the academic geosciences community. EarthCube aims to create a well-connected and facile environment to share data and knowledge in an open, transparent, and inclusive manner, thus accelerating our ability to understand and predict the Earth system.

Achieving EarthCube will require a long-term dialog between NSF and the interested scientific communities to develop cyberinfrastructure that is thoughtfully and systematically built to meet the current and future requirements of geoscientists. New avenues will be supported to gather community requirements and priorities for the elements of EarthCube, and to capture the best technologies to meet these current and future needs. The EarthCube portfolio will consist of interconnected projects and activities that engage the geosciences, cyberinfrastructure, computer science, and associated communities. The portfolio of activities and funding opportunities will evolve over time depending on the status of the EarthCube effort and the scientific and cultural needs of the geosciences community.

Awards: Standard Grant or Continuing Grant; **Anticipated Funding Amount:** \$5,000,000 to \$10,000,000

Letters of Intent: Not required

Proposal Submission Deadline: March 02, 2021

Contacts: Eva Zanzerkia, Directorate for Geosciences, Earth Sciences Division, telephone: (703) 292-4734, email: ezanzerk@nsf.gov

- Amy Walton, Directorate for Computer and Information Science and Engineering, Division of Advanced Cyberinfrastructure, telephone: (703) 292-4538, email: awalton@nsf.gov
 - Marc Stieglitz, Directorate for Geosciences, Office of Polar Programs, telephone: (703) 292-4354, email: mstiegli@nsf.gov
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Grant Program: Human Networks and Data Science (HNDS)

Agency: National Science Foundation NSF 21-514

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21514/nsf21514.htm>

Brief Description: The Human Networks and Data Science program (HNDS) supports research that enhances understanding of human behavior and how humans interact with and are influenced by their environments by leveraging data science and network science research across a broad range of topics. HNDS research will identify ways in which dynamic, distributed, and heterogeneous data can provide novel answers to fundamental questions about individual and group behavior. HNDS is especially interested in proposals that provide data-rich insights about human networks to support improved health, prosperity, and security.

HNDS has two tracks:

1. **Human Networks and Data Science – Infrastructure (HNDS-I).** Infrastructure proposals will address the development of data resources and relevant analytic techniques that support fundamental Social, Behavioral and Economic (SBE) research. Successful proposals will, within the financial resources provided by the award, construct user-friendly large-scale next-generation data resources and relevant analytic techniques and produce a finished product that will enable new types of data-intensive research. The databases or techniques should have significant impacts, either across multiple fields or within broad disciplinary areas, by enabling new types of data-intensive research in the SBE sciences.
2. **Human Networks and Data Science – Core Research (HNDS-R).** Core research proposals will address theoretically motivated questions about the nature, causes, and/or consequences of human behavior (broadly defined) that occurs within contexts defined by the networks that determine the human experience, from the biological networks in the human body to the sociocultural, economic and geospatial networks that comprise human societies. HNDS-R proposals should be submitted through any primary disciplinary program within SBE and not to this solicitation. HNDS-R is interested in leveraging multi-scale, multi-level network data and techniques of network analysis to further theory development across the social sciences. Proposals that address human behavior within complex hierarchical network structures and/or that address problems involving nonlinear dynamics and network heterogeneity are particularly encouraged.

Awards: Standard Grant; **Anticipated Funding Amount:** \$8,000,000

Letters of Intent: Not required

Proposal Submission Deadline: February 04, 2021

Contacts: Trisha Van Zandt, telephone: (703) 292-7437, email: pvanzand@nsf.gov

- Tyler S. Kendall, W13149, telephone: (703) 292-2434, email: tkendall@nsf.gov
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Grant Program: Principles and Practice of Scalable Systems (PPoSS)

Agency: National Science Foundation NSF 21-513

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21513/nsf21513.htm>

Brief Description: A key focus of the design of modern computing systems is performance and scalability, particularly in light of the limits of Moore's Law and Dennard scaling. To this end, systems are increasingly being implemented by composing heterogeneous computing components and continually

changing memory systems as novel, performant hardware surfaces. Applications fueled by rapid strides in machine learning, data analysis, and extreme-scale simulation are becoming more domain-specific and highly distributed. In this scenario, traditional boundaries between hardware-oriented and software-oriented disciplines increasingly are blurred.

Achieving scalability of systems and applications will therefore require coordinated progress in multiple disciplines such as computer architecture, high-performance computing (HPC), programming languages and compilers, security and privacy, systems, theory, and algorithms. Cross-cutting concerns such as performance (including, but not limited to, time, space, and communication resource usage and energy efficiency), correctness and accuracy (including, but not limited to, emerging techniques for program analysis, testing, debugging, probabilistic reasoning and inference, and verification), security and privacy, robustness and reliability, domain-specific design, and heterogeneity must be taken into account from the outset in all aspects of systems and application design and implementation.

The aim of the Principles and Practice of Scalable Systems (PPoSS) program is to support a community of researchers who will work symbiotically across the multiple disciplines above to perform basic research on scalability of modern applications, systems, and toolchains. The intent is that these efforts will foster the development of principles that lead to rigorous and reproducible artifacts for the design and implementation of large-scale systems and applications across the full hardware/software stack. These principles and methodologies should simultaneously provide guarantees on correctness and accuracy, robustness, and security and privacy of systems, applications, and toolchains. Importantly, as described below, **PPoSS specifically seeks to fund projects that span the entire hardware/software stack** and will lay the groundwork for sustainable approaches for engineering highly performant, scalable, and robust computing applications.

Awards: Standard Grant or Continuing Grant; **Anticipated Funding Amount:** \$83,000,000

Planning Grants: Up to \$250,000 per award with duration up to 1 year.

LARGE Grants: Up to \$1,000,000 per year with duration up to 5 years.

Letters of Intent: Not required

Proposal Submission Deadline: January 25, 2021

Contacts: Anindya Banerjee, Program Director, CISE/CCF, telephone: (703) 292-7885, email: abanerje@nsf.gov

- Wei Ding, Program Director, CISE/IIS, telephone: (703) 292-8017, email: weiding@nsf.gov
- Rudolf Eigenmann, CISE/CCF, telephone: (703) 292-8910, email: reigenma@nsf.gov

Grant Program: Dear Colleague Letter: Research on Integrated Photonics Utilizing AIM Photonics Capabilities

Agency: National Science Foundation NSF 21-015

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21015/nsf21015.jsp?org=NSF>

Brief Description: AIM PHOTONICS - The American Institute of Manufacturing of Integrated Photonics (AIM) (<http://www.aimphotonics.com>) was established in July 2015 by the U.S. government under Department of Defense (DoD) leadership as a manufacturing innovation institute to advance integrated photonics. AIM Photonics is an industry-led public-private-partnership that focuses the nation's premiere capabilities and expertise to capture and mature critical manufacturing domestic capability for integrated photonics. The Institute's goal is to emulate the dramatic successes experienced by the semiconductor industry over the past 40 years and transition key lessons, processes, and approaches to the photonic integrated circuit (PIC) industry. AIM Photonics supports providing practical access and technology on-ramps for academic communities, as well as for industry and government. AIM Photonics is creating a National PIC manufacturing infrastructure, widely accessible and inherently flexible to meet the challenges of the future marketplace with practical, innovative PIC manufacturing-oriented solutions.

Research projects utilizing the AIM Photonics fabrication process technologies via multi- project wafer runs should have an objective to bring a specific innovation to integrated photonics circuits and components or to demonstrate a new approach that uses integrated photonics as its differentiator. Examples of such challenges may include:

- Research into new applications of PICs that have promise of breakthrough performance due to the use of an integrated photonic component;
- New devices that are realizable within AIM Photonics standardized integrated silicon photonics processes;
- PIC implementations that have innovative contributions to advancements of photonics circuits (i.e., low power, greater bandwidths and dynamic ranges, better tolerances, new topologies, etc.);
- Innovative design approaches and new models of integrated photonics devices/circuits; and
- Materials and attachment technologies for incorporating integrated photonics into novel packages.

The NSF ENG Division web sites can be accessed at:

- ECCS: <https://www.nsf.gov/div/index.jsp?org=ECCS>
- IIP: <https://www.nsf.gov/div/index.jsp?org=IIP>

Awards: Various

Letters of Intent: Not required

Proposal Submission Deadline: Please contact the program officer.

Contacts: Dominique M. Dagenais (ddagenai@nsf.gov), Division of Electrical, Communications and Cyber Systems (ECCS)

- Lawrence S. Goldberg (lgoldber@nsf.gov), Division of Electrical, Communications and Cyber Systems (ECCS)
- Stephen Konsek (skonsek@nsf.gov), SBIR/STTR, Division of Industrial Innovation and Partnerships (IIP)

Grant Program: Cybersecurity Innovation for Cyberinfrastructure (CICI)

Agency: National Science Foundation NSF 21-512

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21512/nsf21512.htm>

Brief Description: The objective of the Cybersecurity Innovation for Cyberinfrastructure (CICI) program is to develop, deploy and integrate solutions that benefit the broader scientific community by securing science data, workflows, and infrastructure. CICI recognizes the unique nature of modern, rapid collaborative science and the breadth of security expertise, infrastructure and requirements among different practitioners, researchers, and scientific projects. CICI seeks projects in three program areas:

1. **Usable and Collaborative Security for Science (UCSS):** Projects in this program area should support novel and applied security and usability research that facilitates scientific collaboration, encourages the adoption of security into the scientific workflow, and helps create a holistic, integrated security environment that spans the entire scientific CI ecosystem.
2. **Reference Scientific Security Datasets (RSSD):** Projects in this program area should capture the unique properties of scientific workflows and workloads as reference data artifacts to support reproducible security research and protect the scientific process.
3. **Scientific Infrastructure Vulnerability Discovery (SIVD):** Projects in this program area should develop and apply techniques to proactively discover vulnerabilities and weaknesses in scientific infrastructure.

Awards: Standard Grant or Continuing Grant; **Anticipated Funding Amount:** \$5,000,000 to \$7,000,000

Letters of Intent: Not required

Proposal Submission Deadline: January 08, 2021

Contacts: Robert Beverly, Program Director, CISE/OAC, phone: (703) 292-7068, email: rbeverly@nsf.gov

- Kevin Thompson, Program Director, CISE/OAC, phone: (703) 292-4220, email: kthomps@nsf.gov
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Grant Program: Accelerating Research through International Network-to-Network Collaborations (AccelNet)

Agency: National Science Foundation NSF 21-511

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21511/nsf21511.htm>

Brief Description: The goals of the Accelerating Research through International Network-to-Network Collaborations (AccelNet) program are to accelerate the process of scientific discovery and prepare the next generation of U.S. researchers for multiteam international collaborations. The AccelNet program supports strategic linkages among U.S. research networks and complementary networks abroad that will leverage research and educational resources to tackle grand research challenges that require significant coordinated international efforts. The program seeks to foster high-impact science and engineering by providing opportunities to cooperatively identify and coordinate efforts to address knowledge gaps and research needs. This solicitation invites proposals for the creation of international networks of networks in research areas aligned with a grand challenge identified as a priority by the research community or NSF, such as the NSF Big Ideas or in an active program solicitation. AccelNet awards support the connections among research networks, rather than supporting fundamental research as the primary activity. Each network of networks is expected to engage in innovative collaborative activities that promote synergy of efforts across networks and provide professional development for U.S. students, postdoctoral scholars, and early-career researchers. Two proposal categories covered by this solicitation include: Design and Implementation.

It is strongly recommended that prospective PIs contact the AccelNet Program Officer(s) to ascertain that the focus and budget of their proposed activities are appropriate for this solicitation.

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

Letters of Intent: Not required

Proposal Submission Deadline: January 04, 2021

Contacts: Claire A. Hemingway, OISE, telephone: (703) 292-7135, email: chemingw@nsf.gov

- Chris Schneider, BIO, telephone: (703) 292-7920, email: cjschnei@nsf.gov
 - Ralph Wachter, CISE, telephone: (703) 292-8950, email: rwachter@nsf.gov
-

Grant Program: Partnerships for Research and Education in Materials (PREM)

Agency: National Science Foundation NSF 21-510

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21510/nsf21510.htm>

Brief Description: The DMR Partnerships for Research and Education in Materials Research (PREM) program aims to enable, build, and grow partnerships between minority-serving institutions and DMR-supported centers and/or facilities to increase recruitment, retention and degree attainment (which defines the PREM pathway) by members of those groups most underrepresented in materials research, and at the same time support excellent research and education endeavors that strengthen such partnerships.

Awards: Continuing Grant **Anticipated Funding Amount:** \$3,000,000

Letters of Intent: Not required

Proposal Submission Deadline: February 05, 2021

Limit on Number of Proposals per Organization: 1 per lead institution; Please contact Atam Dhawan, SVP, Research at dhawan@njit.edu if you are interested in submission a proposal.

Contacts: Debasis Majumdar, Program Director, telephone: (703)292-4709, email: dmajumda@nsf.gov

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National Institutes of Health

Grant Program: Regional Technology Transfer Accelerator Hubs for IDeA States (STTR) (UT2 - Clinical Trial Not Allowed)

Agency: National Institutes of Health RFA-GM-21-001

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-GM-21-001.html>

Brief Description: This Funding Opportunity Announcement (FOA) solicits applications to strengthen the regional technology transfer accelerator hubs for [Institutional Development Award \(IDeA\)](#) states. Accelerator hubs funded by the awards under this FOA are expected to develop, refine, and implement comprehensive programs for fostering biomedical entrepreneurship which will promote technology transfer, small business finance and management, and other business skills needed to move basic discoveries and technologies out of the lab into commercial products that improve patient care and enhance human health. Each Hub will serve a network of multiple institutional sites across the IDeA states in one of the four regions where the academic partners are located. The goals of this FOA are to: 1) build on regional technology transfer programs to further strengthen the capacity to bring scientific results from academic institutions into the market; 2) fund a pilot project program for product definition studies (e.g., feasibility studies, prototype development, proof-of-concept, and preclinical studies); 3) provide access to expertise and resources in areas required for early stage technology development; 4) provide skills development and hands-on experience in entrepreneurship; and 5) promote a sustainable culture of biomedical entrepreneurship within IDeA states. It is anticipated that the educational tools developed under this FOA will be licensed or sold to other institutions that wish to create accelerator hubs. Establishing public-private partnerships and securing additional non-federal funds will be critical for long-term success.

Awards: Budgets up to \$1.7 million total costs (direct costs, F&A and fee) per year may be requested.

Letter of Intent: Not Applicable

Proposal Submission Deadline: January 5, 2021

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: Krishan K. Arora, Ph.D.; National Institute of General Medical Sciences (NIGMS); Email: arorak@nigms.nih.gov

Grant Program: BRAIN Initiative Cell Census Network (BICCN) Scalable Technologies and Tools for Brain Cell Census (R01 Clinical Trial Not Allowed)

Agency: National Institutes of Health RFA-MH-21-140

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-21-140.html>

Brief Description: The BRAIN Initiative Cell Census Program awarded 9 projects in 2017, 5 in 2018, and 8 in 2019 under a group of FOAs ([RFA-MH-17-210](#), [-215](#), [-225](#), and [-230](#), [RFA-MH-19-148](#), and [-149](#)), which collectively constitute the [BICCN](#)). The overarching goal of the BICCN is to generate comprehensive 3D common reference brain cell atlases that will integrate molecular, anatomical, functional, and cell lineage data for describing cell types in mouse, human, and non-human primate brains.

The expected outcomes of the BICCN include:

- fundamental knowledge on diverse cell types and their three dimensional organizational logic in the brain;
- an open-access 3D digital brain cell reference atlas with molecular, anatomical, and physiological annotations of brain cell types in mouse;
- a comprehensive neural circuit diagram in mouse brain;
- reagents for cell-specific targeting;
- validated high throughput and low-cost approaches to characterizing cell diversity in human and/or non-human primate brain samples.

The BICCN operates as a cooperative network to promote collaboration and coordination among the projects within the Network and the BRAIN Initiative, as well as with any external research entities that have similar goals. Currently, the BICCN has established close collaboration and coordination relationship with BRAIN Initiative Informatics Infrastructure projects funded under [RFA-MH-17-255](#), [RFA-MH-17-256](#), [RFA-MH-257](#) and reissues of those FOAs. It is expected that the BICCN awardees and their collaborators will work together to achieve the common goals. This will involve regular meetings and other coordinated activities within the BICCN as well as the BRAIN Initiative and more broadly with the research and education communities. Thus, the BICCN will leverage existing atlases and common coordinate systems to facilitate collaborative efforts for the data annotation and 3D spatial mapping.

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

Letter of Intent: February 10, 2021

Proposal Submission Deadline: March 10, 2021

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: Yong Yao, Ph.D., National Institute of Mental Health (NIMH); Telephone: 301-443-6102

Email: yyao@mail.nih.gov

Grant Program: Discovery of *in vivo* Chemical Probes for the Nervous System (R01 Clinical Trial Not Allowed)

Agency: National Institutes of Health PAR-21-029

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-21-029.html>

Brief Description: Technological innovations in chemical synthesis, cheminformatics, structural biology, and high throughput bioactivity and drug property assays have allowed rapid discovery of novel, small-molecule probes for the study of disease-related biological processes and mechanisms in academic environments.

Through this Funding Opportunity Announcement (FOA), NIMH, NIDA, NEI and/or NIA encourage applications to advance the discovery of small molecule chemical probes that would enable, by modulating the function of a novel biological target, mechanistic questions to be addressed in animal studies. The NIH aims to stimulate research in 1) discovery and development of a novel *in vivo* chemical probes for their potential use in understanding biological processes relevant to the missions of the participating NIH Institutes, and 2) use of chemical probes to discover and/or validate novel biological targets that will inform studies of brain disease mechanisms. Emphasis will be placed on research that provides new insight into important disease-related biological targets and biological processes. For example, applications may involve emerging therapeutic targets and mechanisms for the discovery of

chemical probes that may lead to further development of therapeutics or provide insight into the biology of relevant diseases.

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

Letter of Intent: Not Required.

Proposal Submission Deadline: [Standard dates](#) apply.

The first standard due date for this FOA is February 5, 2021.

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: Enrique L. Michelotti, Ph.D., National Institute of Mental Health (NIMH), Telephone: 301-443-5415 Email: michelottiel@mail.nih.gov

Grant Program: BRAIN Initiative Fellows: Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (F32)

Agency: National Institutes of Health RFA-MH-20-620

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-20-620.html>

Brief Description: The integrated program of research and training supported by this FOA is intended for postdoctorates who are early in their postdoctoral training period in a given laboratory or research environment, rather than for advanced postdoctorates. Support for early postdoctoral training will maximize the training potential of this fellowship award. Given the interval when applications will be accepted (from 12 months prior to completing terminal degree requirements to 12 months after starting postdoctoral training), it is recognized that some applicants are unlikely to have had the opportunity to generate preliminary data for the proposed project. Accordingly, it is expected that there will be no preliminary data in the application, although inclusion of preliminary data is permissible. The proposed research and training plan should focus on a research area and/or skill set that clearly and strongly complements the applicant's existing research expertise and skills and that will markedly broaden the applicant's knowledge and skills. For example, an applicant with existing skills in molecular neuroscience might propose a research training plan that emphasizes circuit-level neuroscience approaches to brain function. An applicant with existing neuroscience training might propose a research training plan that emphasizes neuroethics. An applicant trained in physics or statistics might propose a research training plan that emphasizes data-intensive/computational approaches to neuroscience.

Awards: Individuals may receive up to 5 years of aggregate Kirschstein-NRSA support at the Award budgets are composed of stipends, tuition and fees, and institutional allowance.

Letter of Intent: November 9, 2020; July 10, 2021, March 11, 2022, November 9, 2022

Proposal Submission Deadline: December 9, 2020; August 10, 2021, April 11, 2022, December 9, 2022 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. 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: Ashlee Van't Veer, PhD; National Institute of Mental Health (NIMH); Telephone: 301-443-3107; Email: Brain.Initiative.Training@nih.gov

Grant Program: BRAIN Initiative: Pilot resources for brain cell type-specific access and manipulation across vertebrate species (U01 Clinical Trial Not Allowed)

Agency: National Institutes of Health RFA-MH-20-556

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-20-556.html>

Brief Description: The purpose of this FOA is to evaluate molecular or genetic technologies and create pilot production and distribution resources for cell type-specific access and manipulation reagents for several vertebrate species. Applicants to this FOA should propose demonstration projects for reagent resource production, validation, and dissemination. The proposed projects should be scalable. The proposed projects should demonstrate the potential to achieve as many of the following goals as possible. Applicants are required to address goals 1, 2, and 3:

1. Reagents enable unique access to many molecularly defined neural cell types that are found in a complex brain region or significant brain network of a vertebrate and that could exhibit distinct cellular, circuit, or behavioral functions.
2. Reagents are easily produced, disseminated, utilized, and stored.
3. Collection of reagents are catalogued for users in a brain atlas and registered to cell types based on molecular, anatomical, or other properties that can be referenced.
4. Reagents are applicable to both genetically tractable and less tractable organisms in common use by neuroscientists.
5. Specificity and efficiency of targeting brain cell types are validated to be quantitatively high and reproducible.
6. Toxic or perturbative effects to cells, tissues, and organisms are quantitatively low.
7. Access technologies provide flexibility to deliver various reporter, sensor, and effector payloads and are compatible with other methods of access.
8. Technologies to access cell types are potentially usable in human *ex vivo* brain tissue or cells to target gene editors or other effectors to disease-relevant circuits for future therapies.

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 date

Proposal Submission Deadline: February 11, 2021; October 19, 2021, by 5:00 PM local time of applicant organization.

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: Douglas S. Kim, Ph.D., National Institute of Mental Health (NIMH), Telephone: 301-827-6463, Email: douglas.kim@nih.gov

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[Department of Defense/US Army/DARPA/ONR/AFOSR](#)

Grant Program: Science & Technology for Advanced Manufacturing Projects (STAMP)

Agency: Department of Defense Office of Naval Research N00014-21-S-B002

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=329699>

Brief Description: The Department of Defense Manufacturing Technology Program (ManTech) is the Defense Department's investment mechanism for staying at the forefront of defense-essential manufacturing capability. The Program develops technologies and processes for the affordable and timely production and sustainment of defense systems. The Program impacts all phases of acquisition. It aids in achieving reduced acquisition and total ownership costs by developing, maturing, and transitioning key manufacturing technologies. ONR will focus investments on those that have the most benefit to the warfighter and include quick-hitting, rapid response projects to address immediate manufacturing needs.

The ManTech Program targets the needs of our warfighters and weapon system programs by helping to find and implement affordable low-risk solutions. The ManTech Program:

- Provides the crucial link between technology invention and development and industrial applications;
- Matures and validates emerging manufacturing technologies to support low-risk implementation in industry and DoD facilities, for example depots and shipyards;
- Addresses production issues from system development through transition to production and sustainment;
- Disseminates information concerning improved manufacturing improvement concepts, including information on such matters as best manufacturing practices, product data exchange specifications, computer-aided acquisition and logistics support, and rapid acquisition of manufactured parts; and
- Sustains and enhances the skills and capabilities of the manufacturing work force.

Awards: Multiple awards are anticipated.

Letter of Intent: Not required.

Proposal Deadline: This announcement will remain open until 30 October 2021 or until replaced by a successor BAA, whichever comes first.

Contact Information: Lynn Christian Contracting Officer [For questions regarding this posting.](#)

Questions of a technical nature should be submitted to: Point of Contact Name: Dr. William Mullins Point of Contact Occupation Title: Program Officer Division Title: Naval Materials Division Division Code: 332 One Liberty Center 875 N. Randolph Street Arlington, VA 22203-1995 Email Address: william.m.mullins@navy.mil

Grant Program: Department of Army Energetics Basic Research Center Fiscal Year 2022

Agency: Department of Defense Dept of the Army -- Materiel Command W911NF-21-S-0001

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=329459>

Brief Description: The future Army is projected to be unable to achieve dominance in range and lethality due to inadequate energetic formulations and form factor limitations associated with current weapon systems. Basic research generates new knowledge that may be exploited to develop and deliver new materials and technologies that contribute to enhanced lethal effects at the system level as well as increased range and a smaller payload. These, in turn, enable space for larger, missioncritical systems, and shorter time-to-target ensuring Army battlefield dominance in MultiDomain Operations. Army research must encompass new ways to expedite the discovery, design, and scale-up of new materials and concepts which when integrated into newly designed weapons components (e.g. additively manufactured high strength steels with pre-formed fragmentation patterns, and structural reactive materials) developed at ARL and across the Army and DoD communities, will deliver decisive weapons overmatch.

To achieve the desired future technological overmatch, advances must be made in new synthetic methodologies targeting novel energetic materials to increase performance for both explosive and propulsion applications. Physics-based synthesis (e.g., processes that use pressure, mechanical action, electromagnetic fields and/or high-energy plasmas) can potentially access materials outside those available via classical chemical synthesis, allowing exploitation of novel, nontraditional materials capable of explosive energy release (e.g., dense metastable extended solids such as doped poly-nitrogen, structural-bond-energy release materials, composite reactive materials).

Awards: It is anticipated that \$3M in annual funding will be available for award to a single proposal under Funding Area One (Center). It is also anticipated that up to \$1M in annual aggregate funding will be available for all awards under Funding Area Two (Seedling). It is anticipated that the Seedling awards will range from \$60k \$250k per year, with typical awards in the range of \$120k-\$180k per year. Awards in the upper end of the range will be made only for extremely meritorious proposals. Seedling Proposals

submitted under Funding Area Two in excess of \$250k per year will not be considered. It is anticipated that \$4M per year is the aggregate funding available for all full proposal awards under the EBRC BAA (to include Center and Seedling awards).

Letter of Intent: White papers are required.

Proposal Deadline: White Papers Due: 3 January 2021; Final Proposals by Invite Only Due: 2 May 2021

Contact Information: Program Manager: Ralph A. Anthenien Jr., ralph.a.anthenien2.civ@mail.mil, 919-549-4317 b. Technical Points of Contact (TPOCs) i. Robert Mantz robert.a.mantz.civ@mail.mil 919-549-4309 ii. Stephen Lee stephen.j.lee28.civ@mail.mil 919-549-4365 iii. Edward Byrd edward.f.byrd2.civ@mail.mil 410-306-0729

Grant Program: Young Faculty Award (YFA)

Agency: Department of Defense DARPA DARPA-RA-21-01

Website: <https://beta.sam.gov/opp/aabf37db17b949b88494684292eb854e/view>

Brief Description: The Defense Advanced Research Projects Agency (DARPA) Young Faculty Award (YFA) program aims to identify and engage rising stars in junior faculty positions in academia and equivalent positions at non-profit research institutions and expose them to Department of Defense (DoD) and National Security challenges and needs. In particular, YFA will provide high-impact funding to elite researchers early in their careers to develop innovative new research directions in the context of enabling transformative DoD capabilities. The long-term goal of the program is to develop the next generation of scientists and engineers in the research community who will focus a significant portion of their future careers on DoD and National Security issues. DARPA is particularly interested in identifying outstanding researchers who have previously not been performers on DARPA programs, but the program is open to all qualified applicants with innovative research ideas.

Awards: Multiple awards are anticipated. Anticipated Funding Available for Award: Each award will include a 24-month base period (a maximum of \$500,000) and a 12-month option period (a maximum of \$500,000).

Letter of Intent: Executive Summary Due Date: October 26, 2020, 4:00 p.m. o FAQ Submission Deadline: December 21, 2020, 4:00 p.m. See Section VIII.A.

Proposal Deadline: Full Proposal Due Date: January 8, 2021, 4:00 p.m.

Contact Information: BAA Coordinator DARPA-RA-21-01@darpa.mil

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: 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. 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: Closing date; June 03. 2021 Any white papers received during that time shall only be considered for award of a contract, other transaction, grant, or cooperative agreement.

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: Pilot Program for Transit-Oriented Development (TOD) Planning 2020 Notice of Funding

Agency: Department of Transportation FTA-2020-014-TPE

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

Brief Description: The Pilot Program for TOD Planning is intended to fund comprehensive planning that supports economic development, ridership, multimodal connectivity and accessibility, increased transit access for pedestrian and bicycle traffic, and mixed-use development near transit stations. The program

also encourages identification of infrastructure needs and engagement with the private sector. Consistent with statutory direction, FTA is seeking comprehensive planning projects covering an entire transit capital project corridor, rather than proposals that involve planning for individual station areas or only a small section of the corridor. To ensure any proposed planning work reflects the needs and aspirations of the local community and results in concrete, specific deliverables and outcomes, transit project sponsors must partner with entities with land use planning authority in the transit project corridor to conduct the planning work.

The Pilot Program for TOD Planning helps support FTA's mission of improving public transportation for America's communities by providing funding to local communities to integrate land use and transportation planning around a new fixed guideway or core capacity improvement project. Per statute, any comprehensive planning funded through the program must examine ways to improve economic development and ridership, foster multimodal connectivity and accessibility, improve transit access for pedestrian and bicycle traffic, engage the private sector, identify infrastructure needs, and enable mixed-use development near transit stations.

Award: The Federal Transit Administration (FTA) announces the availability of approximately \$6.2 million in Pilot Program. FTA may award amounts ranging from \$250,000 to \$2,000,000.

Letter of Intent: Not Required

Proposal Deadline: An applicant must submit a proposal electronically by **11:59 p.m. Eastern Daylight Time on October 26, 2020.**

Contact Information: Dwayne Weeks, Office of Planning and Environment, (202) 493-0316, email: Dwayne.Weeks@dot.gov

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Department of Agriculture:

Grant Program: Community Connect Grant Program

Agency: Department of Agriculture RDRUS-CC-2021

Website: <https://www.rd.usda.gov/sites/default/files/CCFOAFY21.pdf>

Brief Description: The Agency encourages applications that will help improve life in Rural America. See information on the Interagency Task Force on Agriculture and Rural Prosperity found at www.usda.gov/ruralprosperity. Applicants are encouraged to consider projects that provide measurable results in helping rural communities build robust and sustainable economies through strategic investments in infrastructure, partnerships and innovation. Key strategies include: • Achieving e-Connectivity for Rural America • Developing the Rural Economy • Harnessing Technological Innovation • Supporting a Rural Workforce • Improving Quality of Life

Awards: Grant from \$100,000 to \$3,000,000 will be applied to this grant opportunity

Proposal Deadline: December 23, 2020

Contact Information: Contact Us at: https://www.rd.usda.gov/programs-services/communityconnect-grants#blocktabs-program_page--45.

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](#)

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[Department of Labor](#)

Grant Program: H-1B One Workforce Grant Program

Agency: Department of Labor FOA-ETA-20-13

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=329075>

Brief Description: The Employment and Training Administration (ETA), U.S. Department of Labor (DOL, or the Department, or we), announces the availability of up to \$150 million in grant funds authorized under section 414(c) of the American Competitiveness and Workforce Improvement Act of 1998 (ACWIA), as amended (codified at 29 USC 3224a) for the H-1B One Workforce grant program. We expect to fund approximately 15–30 grants, with individual grant amounts ranging from \$500,000 to \$10 million. The purpose of this grant program is to fill critical shortages in economic regions by encouraging states and economic regions to work with industry stakeholders to develop dynamic workforce strategies that train workers and jobseekers for middle- to high-skilled H-1B occupations in key industry sectors, such as Information Technology (IT), advanced manufacturing, and transportation that are being transformed by technological advancements and automation, as well as other industries of the future that include artificial intelligence (AI), quantum information sciences (QIS), 5G/advanced communications, and biotechnology.

These grants will build proof of concepts of innovative training models that can be replicated by the broader workforce system. Applicants must build support for a common vision for responding to the workforce challenges within their state and economic regions, ensuring that their projects complement and leverage, but do not duplicate existing programs. By forging public-private partnerships—H-1B One Workforce Partnerships—applicants will bring together industry and employers, education and training providers, the workforce system, state and local government, and other entities that will work collaboratively to align resources in response to employer demand and to offer novel education and job training solutions that generate positive outcomes and results.

Awards: Awards up to \$10,000,000; Anticipated available funding: \$150,000,000.

Proposal Deadline: Nov 12, 2020 The closing date for receipt of applications under this announcement is November 12, 2020. Applications must be received no later than 4:00:00 p.m. Eastern Time.

Contact Information: Andrea Chism Grants Management Specialist Chism.Andrea.N@dol.gov

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[Department of Commerce/EDA](#)

Grant Program: FY2021 to FY2023 NOAA Broad Agency Announcement (BAA)

Agency: U.S. Department of Commerce NOAA-NFA-NFAPO-2021-2006626

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=329261>

Brief Description: This Broad Agency Announcement is a mechanism to encourage research, education and outreach, innovative projects, or sponsorships that are not addressed through NOAA's competitive discretionary programs. This announcement is not soliciting goods or services for the direct benefit of NOAA. Funding for activities described in this notice is contingent upon the availability of Fiscal Year 2021, Fiscal Year 2022, and Fiscal Year 2023 appropriations. Applicants are hereby given notice that funds have not yet been appropriated for any activities described in this notice. Publication of this announcement does not oblige NOAA to review an application beyond an initial administrative review, or to award any specific project, or to obligate any available funds. As an agency with responsibilities for maintaining and improving the viability of marine and coastal ecosystems, for delivering valuable weather, climate, and water information and services, for understanding the science and consequences of climate change, and for supporting the global commerce and transportation upon which we all depend, NOAA must remain current and responsive in an ever-changing world.

Awards: Contingent to the availability of funds.

Letter of Intent: Contact the program director.

Proposal Deadline: Applications can be submitted on a rolling basis starting from the publication date of this Broad Agency Announcement up to 11:59:59 p.m., Eastern Daylight Time on September 30, 2023.

Contact Information: Mr. Lamar Dwayne Revis, 301-628-1308, lamar.revis@noaa.gov

Grant Program: FY2021 Marine Debris Research

Agency: U.S. Department of Commerce NOAA-NOS-ORR-2021-2006620

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=329047>

Brief Description: The NOAA Marine Debris Program (MDP), authorized in the Marine Debris Act (33 U.S.C. 1951-1958), provides funding to support eligible organizations to conduct research directly related to marine debris through field, laboratory, and modeling experiments. NOAA MDP invites applications for research that investigates and identifies the critical input pathways for marine debris introduction into the coastal zone (shoreline or nearshore), including evaluation of appropriate simultaneous pathways of riverine transport downstream, surface runoff, stormwater discharge, and wind-driven transport, and degradation and fragmentation of debris during transport. Projects should be original, hypothesis-driven projects that have not previously been addressed to scientific standards. Successful proposals through this solicitation will be funded through cooperative agreements. Funding of up to \$2,000,000 is expected to be available for Marine Debris Research grants in Fiscal Year 2021 (FY21). Funding for this grant competition comes through the NOAA Marine Debris Program as annual or supplemental appropriations to the Office of Response and Restoration, National Ocean Service.

Awards: Typical awards will range from \$150,000 - \$300,000.

Letter of Intent: Applicants must submit a Letter of Intent (LOI) and receive an invitation from the NOAA MDP before submitting a full proposal. LOIs must be submitted as an email attachment to grants.marinedebris@noaa.gov by 11:59 pm Eastern Time on November 5, 2020.

Proposal Deadline: Full applications must be received by 11:59 p.m. Eastern Time, February 8, 2021.

Contact Information: Tom Barry tom.barry@noaa.gov, 202-870-2863

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[EPA](#)

Grant Program: Viral Pathogen and Surrogate Approaches for Assessing Treatment Performance in Water Reuse

Agency: Environmental Protection Agency EPA-G2021-STAR-A1

Website: <https://www.epa.gov/research-grants/viral-pathogen-and-surrogate-approaches-assessing-treatment-performance-water-reuse>

Brief Description: For the purpose of this RFA, viral surrogates are defined as an organism, particle, or compound used to study the fate of a pathogen in a given environment (1). Viral surrogates may include nonpathogenic (e.g., coliphage, pepper mild mottle virus [PMMoV], etc.) or pathogenic viruses (e.g., adenovirus, norovirus, etc.) and/or other types of indicators demonstrated to predict the presence of and/or risk of illness from human pathogenic viruses (e.g., enterococcus qPCR [EPA Method 1609], the human marker HF183, etc.) via co-occurrence studies and quantitative microbial risk assessments. EPA recognizes that it is important to engage all available minds to address the environmental challenges the Nation faces. At the same time, EPA seeks to expand the environmental conversation by including members of communities which may have not previously participated in such dialogues to participate in EPA programs. For this reason, EPA strongly encourages all eligible applicants identified in Section III, including minority serving institutions (MSIs), to apply under this opportunity.

Award: It is anticipated that a total of approximately \$6.2 million will be awarded under this announcement, depending on the availability of funds, quality of applications received and other applicable considerations.

Submission Deadline: Solicitation Closing Date: January 6, 2021 11:59:59 pm Eastern Time

Contact: Sarah Ludwig-Monty, Phone: 202-566-1072 ludwig-monty.sarah@epa.gov

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[Department of Energy](#)

Grant Program: Computational Chemical Sciences

Agency: Department of Energy Office of Science DE-FOA-0002426

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=329588>

Brief Description: The DOE SC program in Basic Energy Sciences (BES) hereby announces its interest in receiving new and renewal applications from small groups (2-3 principal investigators) and integrated multidisciplinary teams (typically from multiple institutions) in Computational Chemical Sciences (CCS). Single-investigator applications are not responsive to the objectives of this FOA. CCS will support basic research to develop validated, open-source codes for modeling and simulation of complex chemical processes and phenomena that allow full use of emerging exascale and future planned DOE leadership-class computing capabilities. The focus for CCS is on developing capabilities that allow modeling and simulation of new or previously inaccessible complex chemical systems and/or provide dramatic improvement in fidelity, scalability, and throughput. Teams should bring together expertise in domain areas (e.g., electronic structure, chemical dynamics, statistical mechanics, etc.) and other areas important to advance computational tools such as data science, algorithm development, and software architectures. Priority will be given to efforts that address reaction chemistry across multiple scales in complex environments important in geosciences, catalysis, biochemistry, or electrochemistry.

Awards: Anticipated available funding: \$32,000,000

Letter of Intent: Please see below.

Submission Deadline: Submission Deadline for Pre-Applications: December 2, 2020 at 5 PM Eastern Time A Pre-Application is required Pre-Application Response Date: January 11, 2021 at 5 PM Eastern Time Submission Deadline for Applications: February 8, 2021 at 11:59 PM Eastern Time
Contact: Dr. Jeffrey L. Krause 301-903-5827 (office); 202-380-7911 (cell) Jeff.Krause@science.doe.gov

Grant Program: Atmospheric System Research (ASR)

Agency: Department of Energy Office of Science DE-FOA-0002391

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=329520>

Brief Description: The DOE SC program in Biological and Environmental Research (BER) hereby announces its interest in receiving applications for Atmospheric System Research (ASR) within BER's Earth and Environmental Systems Sciences Division (EESSD). ASR supports research on key cloud, aerosol, precipitation, and radiative transfer processes that affect the Earth's radiative balance and hydrological cycle, especially processes that limit the predictive ability of regional and global models. This FOA solicits research grant applications for observational, data analysis, and/or modeling studies that use observations[1] supported by BER, including the Atmospheric Radiation Measurement (ARM) user facility, to improve understanding and model representation of: 1) aerosol-cloud interactions, 2) aerosol processes, 3) warm boundary layer processes, 4) Arctic atmospheric processes from ARM's Cold-Air Outbreaks in the Marine Boundary Layer Experiment (COMBLE) and Multidisciplinary Drifting Observatory for the Study of Arctic Climate (MOSAIC) campaigns, and/or 5) convective cloud processes from ARM's Cloud, Aerosol, and Complex Terrain Interactions (CACTI) field campaign. All research supported from awards under this FOA is intended to benefit the public through increasing our understanding of the Earth system.

Awards: Anticipated available funding: \$14,600,000

Letter of Intent: Please see below.

Submission Deadline: Submission Deadline for Pre-Applications: December 2, 2020, 5:00 pm Eastern Time A Pre-Application is required Pre-Application Response Date: December 16, 2020, 5:00 Eastern Time Submission Deadline for Applications: January 27, 2021, 11:59 pm Eastern Time

Contact: Dr. Shaima L. Nasiri Shaima.Nasiri@science.doe.gov

Dr. Jeff Stehr Jeff.Stehr@science.doe.gov

Grant Program: Early Career Research Program

Agency: Department of Energy DE-FOA-0002421

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=329485>

Brief Description: DOE SC hereby invites applications for support under the Early Career Research Program in the following program areas: Advanced Scientific Computing Research (ASCR); Basic Energy Sciences (BES); Biological and Environmental Research (BER); Fusion Energy Sciences (FES); High Energy Physics (HEP); Nuclear Physics (NP); Isotope R&D and Production (DOE IP); or Accelerator R&D and Production (ARDAP). The purpose of this program is to support the development of individual research programs of outstanding scientists early in their careers and to stimulate research careers in the areas supported by SC.

SC's mission is to deliver the scientific discoveries and major scientific tools to transform our understanding of nature and advance the energy, economic, and national security of the United States. SC 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.

Early Career Research Program opportunities exist in the following SC research programs. Additional details about each program, websites, and technical points of contacts are provided in the FOA. A.

Advanced Scientific Computing Research (ASCR); B. Basic Energy Sciences (BES); C. Biological and Environmental Research (BER); D. Fusion Energy Sciences (FES); E. High Energy Physics (HEP); F. Nuclear Physics (NP); G. Isotope R&D and Production (DOE IP); and H. Accelerator R&D and Production (ARDAP)

Awards: Anticipated available funding: \$100,000,000

Letter of Intent: Please see below.

Submission Deadline: Submission Deadline for Pre-Applications: November 20, 2020 at 5:00 PM Eastern Time A Pre-Application is required Pre-Application Response Date: December 17, 2020 Submission Deadline for Applications: February 16, 2021 at 5:00 PM Eastern Time

Contact: Area contacts are listed in the FOA. Additional contact: SC.Early@science.doe.gov

Grant Program: Connected Communities

Agency: Department of Energy DE-FOA-0002206

Website: <https://eere-exchange.energy.gov/#FoaId9d24afcd-e292-4ea2-a4d3-d36e2b9dd9c7>

Brief Description: A Connected Community (CC) is a group of grid-interactive efficient buildings GEB with diverse, flexible end use equipment and other distributed energy resources (DERs) that collectively work to maximize building, community, and grid efficiency. Under this FOA, DOE will select a portfolio of “Connected Community” projects totaling up to \$65 million in varying climates, geographies, building types, building vintages, DERs utility/grid/regulatory structures and resource bases. Through funding these projects, DOE hopes to find and share technical and market solutions that will increase demand flexibility and energy efficiency.

Modification 0001: The purpose of this modification was to add Section I.C.: Teaming List, to page 18 of the FOA.

There will be a FOA informational webinar held on Tuesday, November 10, 2020, at 2:00pm Eastern Standard Time (EST). The Link to this webinar is: <https://doe.webex.com/doe/onstage/g.php?MTID=e79d137a47d21fdde524f723b98c55b77>

Questions regarding the FOA must be submitted to CCPilotsFOA@ee.doe.gov

Answers to the questions will be posted to an excel spreadsheet found in the announcement Documents section of the FOA posting.

Awards: Anticipated available funding: \$65,000,000

Letter of Intent: Concept Paper Submission Deadline: 2/17/2021 5:00 PM ET

Submission Deadline: Full Application Submission Deadline: 3/3/2021 5:00 PM ET

Contact: EERE-ExchangeSupport@hq.doe.gov

For questions about the Exchange System or submitting an application through Exchange. Include FOA name and number in subject line; • CCPilotsFOA@ee.doe.gov For questions regarding the Connected Communities FOA

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[NASA](#)

Grant Program: ROSES 2020: Future Investigators in NASA Earth and Space Science and Technology

Agency: NASA NNH20ZDA001N-FINESST

Website: <https://nspires.nasaprs.com/external/solicitations/summary.do?sollId=%7B3E72ED7E-1FBD-F815-5A4E-2DA033EF7449%7D&path=&method=init>

Brief Description: The Future Investigators in NASA Earth and Space Science and Technology (FINESST) is a program element in Research Opportunities in Space and Earth Sciences (ROSES)-2020. ROSES is an "omnibus" solicitation, having default guidelines and information in the ROSES Summary of Solicitation that apply to all of ROSES, including this program element. Through FINESST, the Science Mission Directorate (SMD) solicits proposals from accredited U.S. universities and other eligible organizations for graduate student-designed and performed research projects that contribute to SMD's science, technology, and exploration goals. The Future Investigator (FI) i.e., the student participant, shall have the primary initiative to define the proposed FINESST research project and must be the primary author, with input or supervision from the proposal's Principal Investigator (PI), as appropriate. In cases when the PI already has an ongoing research award from NASA, the research proposed under FINESST may address a similar topic, but the proposal should make clear how the proposed research goes beyond what NASA has already agreed to support.

Awards: No dedicated budget; selected proposals will be funded by the relevant SMD Division or program.

Notice of Intent: Please see below.

Proposal Deadline:

ASTRO20 Proposals Due Feb 04, 2021

EARTH20 Proposals Due Feb 04, 2021

HELIO20 Proposals Due Feb 04, 2021

PLANET20 Proposals Due Feb 04, 2021

Contact: FINESST Program Scientists by Division: Earth Science: allison.k.leidner@nasa.gov

Planetary Science: lindsay.hays@nasa.gov

Astrophysics: hannah.jang-condell@nasa.gov

Heliophysics: madhulika.guhathakurta@nasa.gov

Grant Program: ROSES 2020: Planetary Major Equipment and Facilities

Agency: NASA NNH20ZDA001N-PMEF

Website: <https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7B6484508D-46C2-D599-347D-D610E1F847CD%7D&path=&method=init>

Brief Description: The Planetary Major Equipment and Facilities (PMEF) program element allows proposals for the purchase or development of new or upgraded non-flight analytical, computational, telescopic, and other instrumentation to be used in investigations in Planetary Science Division (PSD) research programs.

There are two types of PMEF instruments that may be proposed: Investigator Instruments and Facility Instruments. • An "Investigator Instrument" is acquired or developed by the proposer to support the PI's research, where the PI has full authority for its exclusive use, and where there are no commitments to make the instrument available to other investigators. • A "Facility Instrument" is acquired or developed to support a wide range of planetary science research. Facility Instrument proposals may identify a portion of the instrument time to be reserved for use by the PI, or by an identified group of PSDsupported investigators, but a significant fraction of instrument time must be made available to other knowledgeable researchers conducting investigations in planetary science. All details of access, announcement of availability, assistance to be provided on its use, and methods of use (whether hands on or by a facility-based operator), charges, and data rights must be documented and agreed to by NASA and the sponsoring institution before NASA support is provided.

Awards: \$1.5M but may be supplemented by Target programs

Notice of Intent: Please see below.

Proposal Deadline: PMEF20 Step-1 Proposals Due: December 4, 2020

Contact: Jeffrey N. Grossman, Planetary Science Division, Science Mission Directorate, NASA Headquarters, Telephone: (202) 358-1218, Email: HQ-PME@mail.nasa.gov

Grant Program: University Student Research Challenge

Agency: NASA NNH20ZEA001N-USRC

Website: <https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7BC9CC1B80-9F50-7B37-2A9B-33CC623FA556%7D&path=&method=init>

Brief Description: USRC seeks to challenge students to propose new aeronautics ideas/concepts that are relevant to ARMD. Apart from this, the students also have the challenge of raising cost share funds through crowdfunding1 platform. The process of creating and preparing a crowdfunding campaign acts as a teaching accelerator - requiring students to act like entrepreneurs and taking action. Understanding the market, fundraising and execution are major skills for a future entrepreneur. Crowdfunding also raises awareness in the general public about students' research. Finally, crowdfunding is being used to excite and bring in non-traditional communities in relationship with ARMD. USRC's strategic goals are: • Provide broad opportunities for students at different levels, including undergraduate and graduate, to participate in aeronautics research; • Assist in achieving aviation outcomes defined in the ARMD Strategic Implementation Plan ("Strategic Plan") [1] through NASA-complementary research.

Awards: About 5 awards; Available Funding: \$80,000

Notice of Intent: Not required.

Proposal Deadline: Three-page proposals for the next USRC cycle are due November 12, 2020. Proposals can also be submitted later and will be evaluated in two additional cycles with due dates: February 25, 2021 and June 24, 2021.

Contact: Email questions to: HQ-USRC@mail.nasa.gov

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National Endowment of Humanities

Grant Program: Collaborative Research

Agency: National Endowment for the Humanities 20201202-RZ

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

Brief Description: Debate, exchange of ideas, and working together—all are basic activities that advance humanities knowledge and foster rich scholarship that would not be possible by researchers working on their own. The Collaborative Research program aims to advance humanistic knowledge through sustained collaboration between two or more scholars. Collaborators may be drawn from a single institution or several institutions across the United States; up to half of the collaborators may be based outside of the U.S. The program encourages projects that propose diverse approaches to topics, incorporate multiple points of view, and explore new avenues of inquiry in the humanities.

The program allows projects that propose research in a single field of study, as well as interdisciplinary work. Projects that include partnerships with researchers from the natural and social sciences are encouraged but must employ a humanistic research agenda. Partnerships among different types of institutions are welcome as well as new collaborations with international partners.

Proposed projects must aim to result in tangible and sustainable outcomes, for example, co-authored or multi-authored books; born-digital publications; themed issues of peer-reviewed journals; a series of peer-reviewed articles; and open-access scholarly digital resources. All project outcomes must incorporate interpretive work and collaboration to address significant humanities research questions.

Award: Maximum award amount: Up to \$250,000 (depending on funding category).

Proposal Deadline: Optional Draft due October 15, 2020; Application due December 2, 2020

Contact: Contact the Division of Research Programs Team; 202-606-8200; collaborative@neh.gov

Grant Program: Digital Humanities Advancement Grants

Agency: National Endowment for the Humanities 20210115-HAA

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

Brief Description: Digital Humanities Advancement Grants (DHAG) support innovative, experimental, and/or computationally challenging projects at different stages throughout their lifecycles, from early start-up phases through implementation and sustainability. Experimentation, reuse, and extensibility are hallmarks of this program, leading to innovative work that can scale to enhance scholarly research, teaching, and public programming in the humanities. This program is offered twice per year. Proposals are welcome for digital initiatives in any area of the humanities.

In support of its efforts to advance digital infrastructures and initiatives in libraries and archives, and subject to the availability of funds and IMLS discretion, the [Institute of Museum and Library Services](#) (IMLS) anticipates providing funding through this program. These funds may support some DHAG projects that further the IMLS mission to advance, support, and empower America's museums, libraries, and related organizations. IMLS funding will encourage innovative collaborations between library and archives professionals, humanities professionals, and relevant public communities that advance preservation of, access to, and public engagement with digital collections and services to empower community learning, foster civic cohesion, and strengthen knowledge networks.

Award: Maximum award amount: Level I: \$50,000; Level II: \$100,000; Level III: \$325,000 in outright funds, with an additional \$50,000 in matching funds

Proposal Deadline: Optional Draft due: December 1, 2020; Application due: January 15, 2021

Contact: Contact the Office of Digital Humanities Team odh@neh.gov

Grant Program: Scholarly Editions and Scholarly Translations

Agency: National Endowment for the Humanities 20201202-RQ

Website: <https://www.neh.gov/grants/research/scholarly-editions-and-translations-grants>

Brief Description: The Scholarly Editions and Scholarly Translations program provides grants to organizations to support collaborative teams who are editing, annotating, and translating foundational humanities texts that are vital to learning and research but are currently inaccessible or are available only in inadequate editions or translations. Typically, the texts are significant literary, philosophical, and historical materials, but other types of work, such as musical notation, may also be the subject of an edition. The program supports continuous full-time or part-time activities during the periods of performance of one to three years. Projects must be undertaken by at least two scholars working collaboratively. While international collaboration is permitted, projects must maintain an equitable balance between scholars at U.S. institutions and scholars at non-U.S. institutions. In addition to supporting long-term editorial projects, the program also encourages applications for short-term projects and for projects that are at a planning stage.

Award: Maximum award amount \$300,000; up to \$450,000 may be available for projects.

Proposal Deadline: Application due December 2, 2020

Contact: Contact the Division of Research Programs Team; 202-606-8200; editions@neh.gov

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[Private Foundations](#)

[New Jersey Health Foundation](#)

Grant Program: Innovation Grants Program

Agency: New Jersey Health Foundation

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

Brief Description: The Innovation Grants Program helps researchers and students at our affiliated organizations -- Kessler Foundation, New Jersey Institute of Technology, Princeton University, Rowan University, Rutgers University and Stevens Institute of Technology -- continue to advance their research by providing grants of up to \$50,000 to support further development of their work. Grants must be used to fund only direct program costs. Grants cannot be used to fund overhead, tuition or any other indirect costs. We created the Innovation Grants Program to help address an important need of researchers in the middle stage of our funding continuum – in between very early research ideas and those ready to form companies.

Many of the researchers who receive Innovation Grants have great ideas but lack access to funding and other resources to further their research. Most do not have an understanding of the business processes required to achieve their goal – proof of concept and commercialization of their work to make their device or treatment available to those who need it. Our team provides mentoring and direction to researchers. Recently supported projects hold the promise of creating tremendous benefits for society. Researchers are investigating ways to detect the early onset of dementia, investigating novel treatments for alcohol use disorder, combating diabetes, treating intraocular diseases, developing insect repellents to improve global health, and researching approaches to combat cancers and allergic inflammation. To obtain more information, please click [here](#).

Awards: Full-time faculty members, staff and other personnel at these organizations are eligible to apply for grants of up to \$35,000 each under the Research Grant Program and grants up to \$25,000 each under the Community Health and Social Service Grant Program

Proposal Deadline: Applications will be accepted from September 21, 2020 through November 13, 2020.

Contact: If you have any questions, please don't hesitate to send an e-mail to researchgrant@njhf.org.

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[Streamlyne Question of the Week](#)

Question: Can I generate budgets for multiple years from the Year-1 budget in Streamlyne?

Answer: Yes! You only need to input the Year-1 budget and then click on the “generate all periods” button. Streamlyne will create budget sheets for the remaining periods. You can then go to “summary” under the budget tab to review budget sheets for all periods. You can also change specific budget items that you allocated in Year-1 but you do not want to continue them in the following periods.

More FAQs on Streamlyne: Please visit <http://www.njit.edu/research/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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