

NJIT Research Newsletter

Issue: ORN-2021-07

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

New Jersey National Security Innovation Summit 2021

March 1, 2021; 9.00 AM -11.30 AM

REGISTRATION IS OPEN. To register for this event, [click here](#).

The Research & Development Council of New Jersey and Rutgers University will co-host a virtual convening on March 1st from 9:30 to 11:30am bringing together stakeholders to meet and explore opportunities for collaboration in support of national security-related activities in New Jersey, including research, technology development, education, and workforce preparation. Attendees will include: federal policymakers, military personnel, and state, industry and higher education leaders. For additional information, please contact Samantha Booth in the Rutgers Office of Federal Relations at sbooth@oq.rutgers.edu.

Agenda

9:30am Welcome Remarks

Jonathan Holloway, President, Rutgers, The State University of New Jersey

Kevin Campos, Chair, Research & Development Council of New Jersey AVP, Head of Small Molecule Process Research & Development, Merck & Co.

The Honorable Donald Norcross, New Jersey's 1st Congressional District

The Honorable Mikie Sherrill, New Jersey's 11th Congressional District

The Honorable Andy Kim, New Jersey's 3rd Congressional District

10:00am Panel Discussions/Breakout Sessions

Panelists from industry, government and academia will speak about key research areas and explore opportunities for collaboration within the DOD modernization priorities.

ADVANCED MANUFACTURING COMMUNICATIONS CYBERSECURITY

11:00am Panel Summaries & Recommendations

11:20am Closing Remarks

11:30am Conclusion

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: Antarctic Research Small Business Technology Transfer Programs; Small Business Innovation Research Programs Future Manufacturing (FM) Stimulating Collaborative Advances Leveraging Expertise in the Mathematical and Scientific Foundations of Deep Learning (SCALE MoDL); Understanding the Rules of Life: Emergent Networks (URoL:EN); National Robotics Initiative 3.0: Innovations in Integration of Robotics (NRI-3.0); Spectrum Innovation Initiative: National Center for Wireless Spectrum Research (SII-Center); Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support - Coordination Office (ACCESS-ACO)

NIH: Undergraduate Research Training Initiative for Student Enhancement (U-RISE) (T34); Limited Competition: Basic Instrumentation Grant (BIG) Program (S10); Shared Instrumentation Grant (SIG) Program (S10); High-End Instrumentation (HEI) Grant Program (S10); NEI Translational Research Program (TRP) on Therapy for Visual Disorders (R24)

Department of Defense/US Army/DARPA/ONR: FY21 Young Investigator Program; Joint Artificial Intelligence Center Test and Evaluation Blanket Purchase Agreement Request for Proposal; National Defense Education Program (NDEP) for STEM; Research Interests of the United States Air Force Academy; Data and Analysis Center (DAC); Science & Technology for Advanced Manufacturing Projects (STAMP)

Department of Transportation: High Priority Program – Innovative Technology Deployment (HP-ITD); INFRA Grants

Department of Agriculture: Equipment Grants Program; Scientific Cooperation Research Program (SCRP); Agriculture and Food Research Initiative - Foundational and Applied Science

Department of Labor: Workforce Pathways for Youth Grant Program

Department of Commerce/EDA: Graduate Student Measurement Science and Engineering (GMSE) Fellowship Program; Measurement Science and Engineering (MSE) Research Grant Programs FY 2021 NIST Small Business Innovation Research Program (SBIR) Phase I; FY2021 to FY2023 NOAA Broad Agency Announcement (BAA)

EPA: FY 2021 National Environmental Information Exchange Network Grant Program

Department of Energy: ARPA-E OPEN 2021; Chemical Upcycling of Polymers; X-Strack: Programming Environments for Scientific Computing

NASA: New (Early Career) Investigator Program in Earth Science; ROSES 2020: Heliophysics Flight Opportunities in Research and Technology; Earth Science Applications: Health and Air Quality; Advanced Information Systems Technology

National Endowment of Humanities: Humanities Initiatives; Research and Development; Awards for Faculty

Private Foundations: New Jersey Commission on Spinal Cord Research: NJCSR Research Program; New Jersey Historical Foundation: F22 Project Grant; NIH-POCTRN Centers: Point-Of-Care Technology Research Program

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[Recent Research Grant and Contract Awards](#)

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

PI: Anand Oza (PI)

Department: Mathematical Sciences

Grant/Contract Project Title: Phase Transitions in Colloid-Polymer Mixtures in Microgravity

Funding Agency: NASA

Duration: 11/05/19-11/04/21

PI: Saikat Pal (PI)

Department: Computer Science

Grant/Contract Project Title: Rapid Quantification of Gait Abnormalities in Children with Cerebral Palsy

Funding Agency: NJ Health Foundation

Duration: 02/15/21-02/14/22

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[In the News...](#)

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

New U.K. Funding Agency on Innovative Research: The U.K. government has released its plans for emulating the storied high-risk, high-reward U.S. funding agency, the Advanced Research Projects Agency (ARPA). During the 2019 election campaign, the Conservative government promised to set up such an agency, and Prime Minister Boris Johnson’s former adviser Dominic Cummings pushed for it. Now, it has a name: the Advanced Research & Invention Agency (ARIA), and a confirmed budget. Business secretary Kwasi Kwarteng announced today it would be funded by an initial £800 million over 4 years, and would begin to disburse grants by 2022.

Unlike ARPA, now known as DARPA because it specializes in defense-related research, ARIA so far lacks a focus, which concerns some experts. “The fabric of an ARPA organization is its mission,” says Anna Goldstein, a science policy researcher at the University of Massachusetts, Amherst, who provided evidence on ARPA to U.K. politicians. Without that, she says, “ARIA is a solution in search of a problem.” More information is available on the [website](#).

Army Launches Autonomous Vehicle Tests in Maryland: Army researchers recently began experimenting with unmanned, autonomous vehicles on land that was used to test munitions and weapons almost 100 years ago. About 200 acres across the Aberdeen Proving Ground in Middle River, Maryland, now make up a modern military study site, where Army Research Laboratory officials are working to prove and refine the performance of the software framework and algorithms created to explore systems’ intelligence—and enable machines’ abilities to carry out specific tasks. “The one-of-its-kind research campus was established to advance Army knowledge of autonomy and intelligent systems through basic and applied research of unmanned technologies that integrate artificial intelligence, autonomy, robotics and human teaming elements in complex environments,” Jeffrey Westrich, an ARL program manager said in a [statement](#) Thursday. More information is posted on the [NextGov website](#).

Joint Artificial Intelligence Center Test and Evaluation Blanket Purchase Agreement: The Joint Artificial Intelligence Center is looking for AI test and evaluation services to support the Defense Department and “the entire U.S. government,” according to a new [request for proposal posted Feb. 11](#). The JAIC, through Army Contracting Command-Rock Island, intends to award multiple blanket purchase agreements for AI testing and evaluation services. The contract has a ceiling of more than \$249 million, according to a question and answer document posted along with the RFP.

Offers on the solicitation are due March 5. Jane Pinelis, the JAIC’s testing and evaluation chief, said the contract and another forthcoming multi-award contract for data readiness assessments will help connect DOD components to industry partners with readily available services facilitating AI adoption. Data readiness has been one of the biggest impediments thwarting fielding of AI in DOD, she said. The Request for Proposals for Joint Artificial Intelligence Center Test and Evaluation Blanket Purchase Agreement is posted on the [SAM Website](#).

Investments in Emerging Tech: Northrop Grumman chief executive officer and president Kathy Warden said she expects flattening defense budgets will shift priorities to focus more heavily on research and development efforts keeping the Defense Department at the forefront of technological advancements. “These are important areas for our nation to be focused on,” Warden said during a Tuesday Center for Strategic and International Studies webinar. “Things like the future of computing, micro electronics, the use of artificial intelligence and machine learning in a responsible way for national security purposes, or the advanced networking that is required to tie our systems together.”

Warden said that even if defense spending increases at lower rates or budgets flatline, she expects national security will remain a priority for the Biden administration. Whether the Biden administration continues with former President Donald Trump’s exact plan and structure for the U.S. Space Force, efforts to beef up capabilities in space should continue as well, she added.

“I think two things will be different in the industry 10 years, 20 years out,” Warden said. “One is the use of core technology to rapidly innovate new solution space. And that means there’ll be more partnership, both partnership amongst industrial players, as well as partnership between governments to evolve technologies more rapidly.” More information is posted on the [NextGov website](#).

What Robots Need to Become Better Helpers: Both the government and private sector continue to work on building more functional robots to accomplish various tasks, especially ones that aren’t suited or safe for humans. For example, NASA’s [Mars Perseverance Mission](#), which is fully robotic, is scheduled to make planetfall on Mars next week. In addition to the Pathfinder robot, which is pretty well-known at this point, it will also be carrying the Ingenuity Mars Helicopter, a [robotic drone](#) specially designed to fly around and explore within the thin atmosphere of Mars. But mobility is only one aspect of creating the advanced robots and robotic tools of the future. For the most part, we have the locomotion part down. We already have thousands of flying drones and robots, plus specialized models that can [climb up the side](#) of cliffs or work completely in or [under the water](#). More information is posted on the [NextGov website](#).

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[Webinar and Events](#)

Event: The Epidemiology of COVID-19

Sponsor: NIH

When: February 23, 2021, 2.00 PM – 3.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=302065&org=NSF

Brief Description: Fundamental epidemiologic knowledge of SARS-CoV-2 has been hard to produce at the pace needed to effectively control the pandemic. What can we learn from this pandemic and from past pandemics, like HIV, to help us turn the corner on this one and prepare for the next one?

Speaker: Carolyn Williams, Ph.D., Chief, Epidemiology, BSP, Division of AIDS, NIAID-NIH

To Join the Webinar: Please register using the [POCTRN Link](#).

Event: Predictive Intelligence for Pandemic Prevention (PIPP) Webinars

Sponsor: NSF

When: February 22, 2021 11:00 AM to February 23, 2021 6:00 PM

February 25, 2021 11:00 AM to February 26, 2021 6:00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=302006&org=NSF

Brief Description: The Directorates for Biological Sciences (BIO); Computer Information Science and Engineering (CISE); Engineering (ENG); Social, Behavioral and Economic Sciences (SBE); and the Office of International Science and Engineering (OISE) at the National Science Foundation (NSF) are jointly supporting a series of interdisciplinary workshops to engage research communities around the topic of **Predictive Intelligence for Pandemic Prevention**. This topic arises both from fundamental scientific questions and pressing societal needs. Consequently, NSF is holding a series of virtual workshops that bring together interdisciplinary experts in the **biological, engineering, computer, and social and behavioral sciences** to start conversations and catalyze ideas on how to advance scientific understanding beyond state-of-the-art in pre-emergence and emergence forecasting, real-time monitoring, and detection of inflection point events in order to prevent and mitigate the occurrence of future pandemics. These goals will be met through integration of fundamental science and engineering advances related but not limited to: synergistic biological interactions spanning molecular, organismal, and epidemiological scales; computational algorithms and frameworks for intelligent processing, analyzing and modeling of data; multiscale smart bio-sensing technologies, networked sensors, in-situ computation; understanding disease transmission due to human social behavior and attitudes and the drivers underlying both. As per our mission, these NSF supported workshops will focus on the foundational knowledge and capabilities needed to inform future infectious disease outbreak prediction and pandemic prevention.

Each of these workshops is expected to have up to 50 invited active participants. The community can participate in a listen-only mode and interact through chat and Q&A functions.

To Join the Webinar: Please register using the above URL.

Event: DMS Virtual Office Hours

Sponsor: NSF

When: February 23, 2021, 2.00 PM – 3.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=302024&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_i3NUN0EuQdqOqokddCH_9Q

Event: Center for Advancement and Synthesis of Open Environmental Data and Sciences Webinar

Sponsor: NSF

When: February 23, 2021, 3.00 PM – 4.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=302065&org=NSF

Brief Description: Program Officers will conduct a Webinar to provide information and guidelines for the submission of proposals to the Center for Advancement and Synthesis of Open Environmental Data and Sciences.

To Join the Webinar: Please register in advance for this webinar: https://nsf.zoomgov.com/webinar/register/WN_YvILcBaDRSWB6fCtbR6cAg.

Event: Future of Work at the Human-Technology Frontier Office Hours

Sponsor: NSF

When: February 24, 2021, 9.30 AM – 11.00 AM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=302092&org=NSF

Brief Description: Learn about the [Future of Work at the Human-Technology Frontier: Core Research \(FW-HTF\) \(NSF 21-548\)](#) opportunity in 2021 at upcoming Office Hours with NSF program directors. The FW-HTF investment responds to challenges and opportunities for the future of jobs and workers in a landscape with rapid social and technological changes.

Find out more in the FW-HTF [orientation and guidance videos](#) and office hour session:

To Join the Webinar: Go

to <https://nsf.zoomgov.com/j/1604061065?pwd=aERPeFU4N1IFaTNVN1dnblVGeFdSUT09>

- Webinar ID: 160 406 1065, Passcode: 051783

Event: Future Manufacturing Webinar

Sponsor: NSF

When: February 26, 2021, 1.00 PM – 2.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301968&org=NSF

Brief Description: NSF will host a webinar to introduce and answer questions related to the [2021 Future Manufacturing program solicitation \(NSF 21-564\)](#) on Friday, February 26, 2021, from 1:00pm to 2:00pm EST. Program directors will discuss the research thrusts, types of proposals, proposal requirements and evaluation criteria specific to this solicitation.

If you have questions after reading the solicitation, please submit them to FutureManufacturing@nsf.gov. Common questions will be answered in the webinar, and there will be an opportunity to ask questions during the webinar as well.

To Join the Webinar: Attendees should follow this registration

link https://nsf.zoomgov.com/webinar/register/WN_PJng-9hzQKmAkx5n5hn39A before the webinar in order to register and receive an attendee link.

Event: Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support (ACCESS) Program Webinar

Sponsor: NSF

When: March 9, 2021, 2.00 PM – 4.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=302091&org=NSF

Brief Description: NSF, through the Office of Advanced Cyberinfrastructure (OAC), has published a [vision](#) that calls for the broad availability and innovative use of an agile, integrated, robust, trustworthy and sustainable CI ecosystem that can drive new thinking and transformative discoveries in all areas of S&E research and education. In support of this vision, NSF has released two solicitations as part of the Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support (ACCESS) Program.

[NSF 21-555 \(ACCESS\)](#) expects to fund five (5) awards for five (5) Cyberinfrastructure Coordination Service Tracks: (1) Allocation Services; (2) End User Support Services; (3) Operations & Integration Services; (4) Monitoring & Measurement Services; and (5) Technology Translation Services. Together, these services are expected to provide a seamless experience for an increasing breadth of research users across a highly performing innovative array of national computational computing resources.

[NSF 21-556 \(ACCESS-ACO\)](#) expects to fund one award for an ACCESS Coordination Office (ACO) to support the collective and coordinated operation of the five CI coordination services. Specifically, the ACO will provide coordination and support services and staffing for top-level coordination and communications among the ACCESS awardees and with the public, including support for top-level inter-awardee governance, coordination of an external advisory board to the ACCESS awardees, maintenance of the top-level landing page of the ACCESS website, and coordinated community-building activities.

This webinar will orient potential proposers to the ACCESS program, discuss both solicitations, and provide a Q&A session to help lead to the submission of high-quality proposals.

To Join the Webinar: Please register for the webinar at:

https://nsf.zoomgov.com/webinar/register/WN_FMajxq5LTwS_Jq5lo_O9Kw

Event: An Introduction to Commercialising your IP

Sponsor: Minesoft

When: February 24, 2021, 2.00 AM – 3.30 PM

Website: <https://minesoft.com/webinars/>

Brief Description: Commercialising IP is not an easy task and it depends on many internal and external factors, such as business objectives, type of IP, as well as the intellectual and economic resources available.

To Join the Webinar: Register at the above URL.

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Grant Opportunities

National Science Foundation

Grant Program: Antarctic Research

Agency: National Science Foundation NSF 21-567

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21567/nsf21567.htm>

Brief Description: The Antarctic Sciences Section (ANT) of the Office of Polar Programs (OPP) supports cutting-edge research that:

- Improves understanding of interactions among the Antarctic region and global systems;
- Expands fundamental knowledge of Antarctic systems, biota, and processes; and
- Utilizes the unique characteristics of the Antarctic region as a science observing platform.

The U.S. Antarctic Program (USAP) supports scientific research in Antarctica and the Southern Ocean with logistics provided by OPP's Antarctic Infrastructure and Logistics Section (AIL). Antarctic fieldwork is supported only for research that must be performed, or is best performed, in Antarctica. ANT encourages research, using existing samples, data, and models, that do not require fieldwork.

ANT encourages and supports research that crosses and combines disciplinary perspectives and approaches. ANT also supports proposals that promote effective collaborations between Polar and cyberinfrastructure researchers.

Awards: Standard Grant or Continuing Grant; Anticipated Funding Amount: \$60,000,000

Letters of Intent: Not Required

Proposal Submission Deadline: Proposals Accepted Anytime

Contacts: Paul M. Cutler, Program Director, Glaciology, Ice Core Science, and Geomorphology, W7217, telephone: (703) 292-4961, fax: (703) 292-9025, email: pcutler@nsf.gov

- Karla Heidelberg, Program Director, Antarctic Organisms and Ecosystems, W7153, telephone: (703) 292-2586, email: kheidelb@nsf.gov

Grant Program: Small Business Technology Transfer Programs; Small Business Innovation Research Programs

Agency: National Science Foundation

RFP Website:

Small Business Technology Transfer Program Phase II (STTR Phase II) NSF 21-566

<https://www.nsf.gov/pubs/2021/nsf21566/nsf21566.htm>

Small Business Innovation Research Program Phase II (SBIR Phase II) NSF 21-565

<https://www.nsf.gov/pubs/2021/nsf21565/nsf21565.htm>

Small Business Technology Transfer (STTR) Program Phase I NSF 21-563

<https://www.nsf.gov/pubs/2021/nsf21563/nsf21563.htm>

Small Business Innovation Research (SBIR) Program Phase I NSF 21-562

<https://www.nsf.gov/pubs/2021/nsf21562/nsf21562.htm>

Brief Description: The STTR program is intended to support scientific excellence and technological innovation that is moving from the lab to the market. By investing federal research and development funds into startups and small businesses, NSF hopes to build a strong national economy and stimulate the creation of novel products, services, and solutions in the private sector; strengthen the role of small business in meeting federal research and development needs; increase the commercial application of federally supported research results; and develop and increase the US workforce, especially by fostering and encouraging participation by socially and economically disadvantaged and women-owned small businesses.

The STTR program at NSF solicits proposals based on groundbreaking scientific discoveries or significant engineering breakthroughs from the small businesses consistent with NSF's mission to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.

The SBIR program is intended to support scientific excellence and technological innovation that is moving from the lab to the market. By investing federal research and development funds into startups and small businesses, NSF hopes to build a strong national economy and stimulate the creation of novel products, services, and solutions in the private sector; strengthen the role of small business in meeting federal research and development needs; increase the commercial application of federally supported research results; and develop and increase the US workforce, especially by fostering and encouraging participation by socially and economically disadvantaged and women-owned small businesses.

The SBIR program at NSF solicits proposals based on groundbreaking scientific discoveries or significant engineering breakthroughs from the small businesses consistent with NSF's mission to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.

Awards: Cooperative Agreement; STTR Anticipated Funding Amount: \$20,000,000 to \$30,000,000

SBIR Anticipated Funding Amount: \$180,000,000

Letters of Intent: Not Required

Proposal Submission Deadline:

February 16, 2021 - March 04, 2021

March 05, 2021 - June 03, 2021

June 04, 2021 - September 02, 2021

September 03, 2021 - December 02, 2021

Contacts: Contact Your NSF STTR Phase I Program Officer, telephone: (703) 292-8050, email: sbir@nsf.gov

Contact Your NSF SBIR Phase I Program Officer, telephone: (703) 292-8050, email: sbir@nsf.gov

Henry Ahn, Biomedical (BM) Technologies and Medical Devices (MD), telephone: (703) 292-7069, email: hahn@nsf.gov

Peter Atherton, Advanced Analytics (AA); Artificial Intelligence (AI); Cloud and High-Performance Computing (CH); Cybersecurity and Authentication (CA); and Quantum Information Technologies (QT), telephone: (703) 292-8772, email: patherto@nsf.gov

Grant Program: Future Manufacturing (FM)

Agency: National Science Foundation NSF 21-564

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21564/nsf21564.htm>

Brief Description: The goal of Future Manufacturing is to support fundamental research and education of a future workforce to overcome scientific, technological, educational, economic and social barriers in order to enable new manufacturing capabilities that do not exist today. Future Manufacturing will require major advances in technologies and algorithms for the synthesis and production of new materials, chemicals, devices, components and systems of assured quality with high yield at reasonable cost. It will require new advances in artificial intelligence and machine learning, new cyber infrastructure, new approaches for mathematical and computational modeling, new dynamics and control methodologies, new ways to integrate systems biology, synthetic biology and bioprocessing, and new ways to influence the economy, workforce, human behavior, and society.

Future Manufacturing requires creative convergence approaches in science, technology and innovation, empirical validation, and education and workforce development to address pressing challenges for manufacturing. At the same time, Future Manufacturing can leverage highly integrated physical, digital and social frameworks that underpin society to enable manufacturing that addresses urgent social challenges such as global health disparities, economic and social divides, infrastructure deficits of marginalized populations and communities, and environmental sustainability. Cross-disciplinary partnerships among scientists, engineers, social and behavioral economists, and experts in arts and humanities may be required to provide solutions that are equitable and inclusive.

Among this array of technologies and potential research subjects, three thrust areas have been identified for support in FY 2021 under this solicitation:

**Future Cyber Manufacturing Research,
Future Eco Manufacturing Research, and
Future Biomanufacturing Research.**

Awards: Standard Grant or Continuing Grant; Anticipated Funding Amount: \$32,200,000

Letters of Intent: Not Required

Proposal Submission Deadline: May 14, 2021

Contacts: William Olbricht, Program Director, (ENG/CBET), telephone: (703) 292-4842, email: wolbrich@nsf.gov

- Andrew B. Wells, Program Director, (ENG/CMMI), telephone: (703) 292-7225, email: awells@nsf.gov
 - Senay Agca, Program Director, (SBE/SES), telephone: (703) 292-2459, email: sagca@nsf.gov
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Grant Program: Stimulating Collaborative Advances Leveraging Expertise in the Mathematical and Scientific Foundations of Deep Learning (SCALE MoDL)

Agency: National Science Foundation NSF 21-561

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21561/nsf21561.htm>

Brief Description: Deep learning has met with impressive empirical success that has fueled fundamental scientific discoveries and transformed numerous application domains of artificial intelligence. Our incomplete theoretical understanding of the field, however, impedes accessibility to deep learning technology by a wider range of participants. Confronting our incomplete understanding of the mechanisms underlying the success of deep learning should serve to overcome its limitations and expand its applicability. The National Science Foundation Directorates for Mathematical and Physical Sciences (MPS), Computer and Information Science and Engineering (CISE), Engineering (ENG), and Social, Behavioral and Economic Sciences (SBE) will jointly sponsor new research collaborations consisting of mathematicians, statisticians, electrical engineers, and computer scientists. Research activities should be focused on explicit topics involving some of the most challenging theoretical questions in the general area of Mathematical and Scientific Foundations of Deep Learning. Each collaboration should conduct training through research involvement of recent doctoral degree recipients, graduate students, and/or undergraduate students from across this multi-disciplinary spectrum. This program complements NSF's [National Artificial Intelligence Research Institutes](#) and [Harnessing the Data Revolution](#) programs by supporting collaborative research focused on the mathematical and scientific foundations of Deep Learning through a different modality and at a different scale.

When responding to this solicitation, even though proposals must be submitted through the Directorate for Mathematical and Physical Sciences, Division of Mathematical Sciences (MPS/DMS), once received, the proposals will be managed by a cross-disciplinary team of NSF Program Directors. PI teams must collectively possess appropriate expertise in three disciplines - computer science, electrical engineering, and mathematics/statistics. Each project must clearly demonstrate substantial collaborative contributions from members of their respective communities; projects that increase diversity and broaden participation are encouraged.

A wide range of scientific themes on theoretical foundations of deep learning may be addressed in these proposals. Likely topics include but are not limited to geometric, topological, Bayesian, or game-theoretic formulations, to analysis approaches exploiting optimal transport theory, optimization theory, approximation theory, information theory, dynamical systems, partial differential equations, or mean field theory, to application-inspired viewpoints exploring efficient training with small data sets, adversarial learning, and closing the decision-action loop, not to mention foundational work on understanding success metrics, privacy safeguards, causal inference, and algorithmic fairness.

Awards: Continuing Grant; Anticipated Funding Amount: \$15,000,000

Letters of Intent: Not Required

Proposal Submission Deadline: May 12, 2021

Contacts: Huixia Wang, Program Director, Division of Mathematical Sciences, telephone: (703) 292-2279, email: huiwang@nsf.gov

- Radhakisan S. Baheti, Program Director, Division of Electrical, Communications and Cyber Systems, telephone: (703) 292-8339, email: rbaheti@nsf.gov
- Aranya Chakraborty, Program Director, Division of Electrical, Communications and Cyber Systems, telephone: (703) 292-8113, email: achakrab@nsf.gov

Grant Program: Understanding the Rules of Life: Emergent Networks (URoL:EN): Predicting Transformation of Living Systems in Evolving Environments

Agency: National Science Foundation NSF 21-560

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21560/nsf21560.htm>

Brief Description: The *Understanding the Rules of Life: Predicting Phenotype* "Big Idea" is based on developing a predictive understanding of how key properties of living systems emerge from interactions of factors such as genomes, phenotypes, and evolving environments. This activity has launched a series of new research programs designed to elucidate "minimal rules" (building a synthetic cell), "rules of complexity" (epigenetics), and "rules of interaction" (microbiome). A list of *Understanding the Rules of Life* awards made thus far can be found on the [NSF Awards Search](#).

This *Understanding the Rules of Life: Emergent Networks* (URoL:EN) solicitation adds to those previous foundational activities to now understand "rules of emergence" for networks of living systems and their environments. Emergent networks describe the interactions among organismal, environmental, social, and human-engineered systems that are complex and often unexpected given the behaviors of these systems when observed in isolation. The behavior of emergent networks of living systems depend on, but are not wholly predicted by, chemical and physical principles and unit-level biological properties (molecule/cell/organism/population), as well as communication and information flows among nodes in the network. Networks of living systems are reciprocally coupled with natural, built, and social environments in ways that are complex and difficult to predict. The often-unanticipated outcomes of these interactions can be both wide-ranging and enormously impactful. Prediction is further hampered by accelerating perturbations within evolving environments and the associated increase in the frequency of previously rare or extreme events. Determining the emergent properties of these networks, which arise from complex and nonlinear interactions among the different systems that in isolation do not exhibit such properties, is a critical and unsolved problem. One of many examples of this could include the emerging network of interactions across scales that arose from the arrival of the nonnative pathogen, *Cryphonectria parasitica*, or Chestnut blight, introduced with nursery stock. This pathogen effectively eliminated a dominant overstory tree species, American chestnut (*Castanea dentata*), across North America and had concomitant impacts on and feedbacks between biotic, abiotic, and social networks. For example, the economic impacts of this pathogen ranged from local agricultural and social impacts to global scale impacts on the timber industry.

Successful projects of the URoL:EN program are expected to use convergent approaches that explore emergent network properties of living systems across various levels of organizational scale and, ultimately, contribute to understanding the rules of life through new theories and reliable predictions about the impact of specific environmental changes on behaviors of complex living systems, or engineerable interventions and technologies based on a rule of life to address associated outcomes for societal benefit. The convergent scope of URoL:EN projects also provides unique STEM education and outreach possibilities to train the next generation of scientists in a diversity of approaches and to engage society more generally. Hence, the URoL:EN program encourages research projects that integrate training and outreach activities in their research plan, provide convergent training opportunities for researchers and students, develop novel teaching modules, and broaden participation of under-represented groups in science.

Awards: Standard Grant or Continuing Grant

Anticipated Funding Amount: \$15,000,000

Letters of Intent: Not required

Proposal Submission Deadline: May 10, 2021

Contacts: Betsy von Holle, BIO, telephone: (703) 292-4974, email: e-networks@nsf.gov

- Mitra Basu, CISE, telephone: (703) 292-8649, email: e-networks@nsf.gov
- Jeremy Guinn, EHR, telephone: (703) 292-8193, email: e-networks@nsf.gov

Grant Program: National Robotics Initiative 3.0: Innovations in Integration of Robotics (NRI-3.0)

Agency: National Science Foundation NSF 21-559

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21559/nsf21559.htm>

Brief Description: The National Robotics Initiative 3.0: Innovations in Integration of Robotics (NRI-3.0) program builds upon the preceding National Robotics Initiative (NRI) programs to support fundamental research in the United States that will advance the science of robot integration. The program supports research that promotes integration of robots to the benefit of humans **including** human safety and human independence. Collaboration between academic, industry, non-profit, and other organizations is encouraged to establish better linkages between fundamental science and engineering and technology development, deployment, and use.

The NRI-3.0 program is supported by multiple agencies of the federal government including the National Science Foundation (NSF), the U.S. Department of Agriculture (USDA), the National Aeronautics and Space Administration (NASA), the Department of Transportation (DOT), the National Institutes of Health (NIH), and the National Institute for Occupational Safety and Health (NIOSH). Questions concerning a particular project's focus, direction, and relevance to a participating funding organization should be addressed to that agency's point of contact, listed in section VIII of this solicitation.

Awards: Standard Grant or Continuing Grant or Cooperative Agreement or contract vehicles as determined by the supporting agency

Estimated Number of Awards: 15 to 30

per year, subject to the availability of funds.

Projects will range from \$250,000 to \$1,500,000 in total costs for up to four years.

Anticipated Funding Amount: \$12,500,000 to \$14,100,000

Letters of Intent: Not required

Proposal Submission Deadline: April 19, 2021 - May 03, 2021; February 08, 2022 - February 22, 2022

Contacts: David Miller, telephone: (703) 292-4914, email: damiller@nsf.gov

- Scott Acton, CISE/CCF, telephone: (703) 292-2124, email: sacton@nsf.gov
- Radhakisan Baheti, ENG/ECCS, telephone: (703) 292-8339, email: rbaheti@nsf.gov

Grant Program: Spectrum Innovation Initiative: National Center for Wireless Spectrum Research (SII-Center)

Agency: National Science Foundation NSF 21-558

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21558/nsf21558.htm>

Brief Description: The worldwide growth of wireless communication, navigation, and telemetry has provided immense societal benefits including mobile broadband data, Internet of Things (IoT), mobile healthcare, and intelligent transportation systems. These and other applications call for innovations that can circumvent the challenges of radio spectrum scarcity and interference, and foster the growth of ubiquitous, high speed, low latency connectivity. Commercial applications like the above must operate in harmony with scientific uses of spectrum (e.g., radio astronomy, Earth and atmospheric sciences, and polar research) and other nationally vital spectrum-dependent services (e.g., weather prediction). The National Science Foundation (NSF) continues to support wireless spectrum research and the scientific uses of the electromagnetic spectrum through multiple programs that enable fast, accurate, dynamic coordination and usage of the limited spectrum resource. These programs have created an opportune ground to build and create a large center-based ecosystem for spectrum research, which is the target of this SII-Center program.

NSF's goal is to promote transformative use and management of the electromagnetic spectrum, resulting in profound benefits for science and engineering, industry, and other national interests. The focus of a spectrum research SII-Center must chart out a trajectory to ensure United States leadership in future

wireless technologies, systems, and applications in science and engineering through the efficient use and sharing of the radio spectrum. The SII-Center should also seek to foster scientific and technical collaboration. The establishment of an SII-Center will have a transformational impact on wireless spectrum research by serving as a connecting point for the biggest and most challenging questions in spectrum management that the nation is facing. The SII-Center is expected to educate and develop an agile workforce needed to support industries of the future which will rely heavily on wireless technologies.

Awards: Cooperative Agreement; Number of Award: 1; Anticipated Funding Amount: \$25,000,000

Letters of Intent: Required by March 01, 2021

Proposal Submission Deadline: April 01, 2021 - April 30, 2021

Contacts: Bevin A. VanderLey, telephone: (703) 292-2428, email: SII-Center@nsf.gov

- Jonathan V. Williams, MPS/AST, telephone: (703) 292-2455, email: SII-Center@nsf.gov
 - Alexander Sprintson, CISE/CNS, telephone: (703) 292-8950, email: SII-Center@nsf.gov
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Grant Program: Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support - Coordination Office (ACCESS-ACO)

Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support - Coordination Office (ACCESS-ACO)

Agency: National Science Foundation NSF 21-556 and NSF 21-555

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21556/nsf21556.htm>

https://www.nsf.gov/publications/pub_summ.jsp?org=NSF&ods_key=nsf21556

Brief Description: The national research cyberinfrastructure (CI) ecosystem is essential to computational- and data-intensive research across all of 21st-century science and engineering (S&E), driven by rapid advances in a wide range of technologies; increasing volumes of highly heterogeneous data; and escalating demand by the research community. Research CI is a key catalyst for discovery and innovation and plays a critical role in ensuring US leadership in S&E, economic competitiveness, and national security, consistent with the NSF's mission. NSF, through the Office of Advanced Cyberinfrastructure (OAC), has published a [vision](#) that calls for the broad availability and innovative use of an agile, integrated, robust, trustworthy and sustainable CI ecosystem that can drive new thinking and transformative discoveries in all areas of S&E research and education. In support of this vision, NSF is releasing two solicitations in parallel: this solicitation, Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support – Coordination Office (ACCESS-ACO), and Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support (ACCESS). This solicitation focuses on the creation of a coordination office to support the collective and coordinated operation of the NSF ACCESS solicitation awardees.

Awards: Cooperative Agreement; Number of Award: 1; Anticipated Funding Amount: \$5,000,000

Limit on Number of Proposals per Organization: 1

Letters of Intent: Not required

Proposal Submission Deadline: June 16, 2021

Contacts: Robert B. Chadduck, Program Director, CISE/OAC, telephone: (703) 292-2247, email: rchadduc@nsf.gov

- Alejandro Suarez, Associate Program Director, CISE/OAC, telephone: (703) 292-7092, email: alsuarez@nsf.gov

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[National Institutes of Health](#)

Grant Program: Undergraduate Research Training Initiative for Student Enhancement (U-RISE) (T34)

Agency: National Institutes of Health PAR-21-146

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-21-125.html>

Brief Description: The **Overarching Objective** of the Undergraduate Research Training Initiative for Student Enhancement program is to develop a diverse pool of undergraduates who complete their baccalaureate degree and transition into and complete biomedical, research-focused higher degree programs (e.g., Ph.D. or M.D./Ph.D.). The long-term goal is to develop a diverse pool of well-trained biomedical scientists, who have the following technical, operational, and professional skills:

- A broad understanding across biomedical disciplines and the skills to independently acquire the knowledge needed to advance their chosen fields;
- Expertise in a biomedical scientific discipline and the skills to think critically and independently, and to identify important biomedical research questions and approaches that push forward the boundaries of their areas of study;
- A strong foundation in scientific reasoning, rigorous research design, experimental methods, quantitative and computational approaches, and data analysis and interpretation;
- The skills to conduct research in the safest manner possible, and a commitment to approaching and conducting biomedical research responsibly, ethically, and with integrity;
- Experience initiating, conducting, interpreting, and presenting rigorous and reproducible biomedical research with increasing self-direction;
- The ability to work effectively in teams with colleagues from a variety of cultural and scientific backgrounds, and to promote inclusive and supportive scientific research environments;
- The skills to teach and communicate scientific research methodologies and findings to a wide variety of audiences (e.g., discipline-specific, across disciplines, and the public); and
- The knowledge, professional skills and experiences required to identify and transition into careers in the biomedical research workforce (i.e., the breadth of careers that sustain biomedical research in areas that are relevant to the NIH mission).

Diversity at all levels—from the kinds of science to the regions in which it is conducted to the backgrounds of the people conducting it— contributes to excellence in research training environments and strengthens the research enterprise. This FOA is intended to support outstanding research training programs that will enhance diversity at all levels. As part of a larger initiative to enhance diversity, the U-RISE program will support trainees who are earning a baccalaureate degree at research-active institutions and who intend to complete a biomedical research higher degree program (e.g., Ph.D., or M.D./Ph.D.).

Awards: Application budgets should reflect the actual needs of the proposed project.

Letter of Intent: Not required

Proposal Submission Deadline: May 26, 2021; May 26, 2022; May 26, 2023

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

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

Contact: Edgardo Falcón-Morales, Ph.D., National Institutes of General Medical Sciences (NIGMS)
Email: edgardo.falcon@nih.gov

Grant Program: Limited Competition: Basic Instrumentation Grant (BIG) Program (S10 Clinical Trial Not Allowed)

Agency: National Institutes of Health PAR-21-125

Companion Funding Opportunity:

[PAR-21-126](#), **S10 Biomedical Research Support Shared Instrumentation Grants**
[PAR-21-127](#), **S10 Biomedical Research Support Shared Instrumentation Grants**

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-21-125.html>

Brief Description: With this Funding Opportunity Announcement, ORIP introduces the Basic Instrumentation Grant (BIG) Program. The Program targets institutions that have not received in any of the last 3 Federal fiscal years (FYs 2018-2020) a substantial S10 shared instrumentation award funding of a total of \$250,001 or greater – [see Section III.3](#). Additional Information on Eligibility for eligibility requirements. Institutions that are not major recipients of NIH research funding are especially encouraged to apply. Often such institutions are in Institutional Development Award ([IDeA](#))-eligible states or serve underrepresented populations. The main objective of the BIG Program is to make available modern scientific instruments that are needed by NIH-funded investigators and other groups of biomedical scientists to advance their research and to broaden access to modern technologies at academic and research institutions nationwide. Typically, state-of-the-art technologies that are indispensable for today's research are too costly for a single investigator to purchase or operate. Their acquisitions can only be justified on a shared-use basis. Any institution that received a total of \$250,001 or more of S10 grant funding in any of the 3 fiscal years 2018-2020 is not eligible to apply to this FOA.

The BIG Program provides funds to purchase a single costly, specialized, commercially available instrument or an integrated instrumentation system. An integrated instrumentation system is one in which the components, when used in conjunction with one another, perform a function that no single component can provide. The components must be dedicated to the system and not used independently. Types of instruments supported include, but are not limited to, basic cell sorters, confocal microscopes, ultramicrotomes, gel imagers, or computer systems. Applications for standalone computer systems (supercomputers, computer clusters, and data storage systems) will only be considered if the system is solely dedicated to biomedical research. All instruments, integrated systems, and computer systems must be dedicated to research only.

Awards: Applications will be accepted that request a single, commercially available instrument or an integrated instrumentation system. The minimum award is \$25,000. There is no upper limit on the cost of the instrument, but the maximum award is \$250,000.

Letter of Intent: Not required

Proposal Submission Deadline: June 01, 2021

All applications are due by 5:00 PM local time of applicant organization.

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: Alena Horska, PhD, Office of Research Infrastructure Programs (ORIP), Telephone: 301-435-0772; Email: SIG@mail.nih.gov

Grant Program: Shared Instrumentation Grant (SIG) Program (S10 Clinical Trial Not Allowed)

Agency: National Institutes of Health PAR-21-127

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-21-127.html>

Brief Description: The purpose of this funding opportunity is to continue the Shared Instrumentation Grant (SIG) Program administered by ORIP. The objective of the Program is to make available to institutions high-priced research instruments that can only be justified on a shared-use basis and that are needed for NIH-supported projects in basic, translational, or clinical biomedical and bio-behavioral

research. The SIG Program provides funds to purchase or upgrade a single item of expensive, state-of-the-art, specialized, commercially available instrument or an integrated instrumentation system. An integrated instrumentation system is one in which the components, when used in conjunction with one another, perform a function that no single component can provide. The components must be dedicated to the system and not used independently.

Types of supported instruments include, but are not limited to: X-ray diffractometers, mass spectrometers, nuclear magnetic resonance (NMR) spectrometers, DNA and protein sequencers, biosensors, electron and light microscopes, cell sorters, and biomedical imagers. Applications for standalone computer systems (supercomputers, computer clusters and data storage systems) will only be considered if the system is solely dedicated to biomedical research. All instruments, integrated systems, and computer systems must be dedicated to research only.

The SIG Program will not support requests for:

- An instrument with a base cost of less than \$50,000;
- Multiple instruments bundled together;

Awards: Applications will be accepted that request a single, commercially available instrument or an integrated instrumentation system. The minimum award is \$50,000. There is no upper limit on the cost of the instrument, but the maximum award is \$600,000.

Letter of Intent: Not required

Proposal Submission Deadline: June 1, 2021

All applications are due by 5:00 PM local time of applicant organization.

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: Alena Horska, PhD, Office of Research Infrastructure Programs (ORIP), Telephone: 301-435-0772; Email: SIG@mail.nih.gov

Grant Program: High-End Instrumentation (HEI) Grant Program (S10 Clinical Trial Not Allowed)

Agency: National Institutes of Health PAR-21-126

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-21-126.html>

Brief Description: The purpose of this funding opportunity is to continue the High-End Instrumentation (HEI) Grant Program administered by the Office of Research Infrastructure Programs (ORIP). The objective of the Program is to make available to institutions high-end cutting-edge research instruments that can only be justified on a shared-use basis and that are needed for NIH-supported projects in basic, translational, and clinical biomedical or biobehavioral research. The HEI program provides funds to purchase or upgrade a single item of expensive, leading-edge, specialized, commercially available instrument or an integrated instrumentation system. An integrated instrumentation system is one in which the components, when used in conjunction with one another, perform a function that no single component can provide. The components must be dedicated to the system and not used independently.

Types of supported instruments include, but are not limited to: X-ray diffractometers, mass spectrometers, nuclear magnetic resonance (NMR) spectrometers, DNA and protein sequencers, biosensors, electron and light microscopes, cell sorters, high throughput robotic screening systems, and biomedical imagers. Applications for standalone computer systems (supercomputers, computer clusters and data storage systems) will only be considered if the system is solely dedicated to biomedical research. All instruments and integrated systems must be dedicated to biomedical research only.

The HEI Program will *not* support requests for:

- An instrument with a base cost of less than \$600,001;
- Multiple instruments bundled together;

Awards: Applications will be accepted that request a single, commercially available instrument or integrated system. The minimum award is \$600,001. There is no upper limit on the cost of the instrument, but the maximum award is \$2,000,000.

Letter of Intent: Not required

Proposal Submission Deadline: June 1, 2021

All applications are due by 5:00 PM local time of applicant organization.

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: Guanghu (Jeff) Wang, PhD; Office of Research Infrastructure Programs (ORIP); Telephone: 301-435-0772; Email: HEI@mail.nih.gov

Grant Program: NEI Translational Research Program (TRP) on Therapy for Visual Disorders (R24 Clinical Trial Optional)

Agency: National Institutes of Health PAR-20-319

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-20-319.html>

Brief Description: The objective of this FOA is to encourage collaborative research that facilitates the translation of focused laboratory and animal studies into novel resources for the treatment of ocular diseases. Translational research may target new or previously identified genes, molecules, and/or pathways that are appropriate for therapeutic intervention. The broad scope of this program is intended to cover all visual system diseases and disorders that are relevant to the mission of the NEI. The concept is to bring teams of experts together to create a pipeline for therapy and/or medical device development. The scope of the proposed research should be beyond the capabilities and resources of one research laboratory. For example, development of gene therapy may require research teams with expertise in the pathophysiology of the disease, clinical experience in the manifestations and treatments currently available, cell biologists able to contribute resources such as therapeutic genes and vectors capable of appropriate tissue targeting and gene expression, and with animal models appropriate for toxicology and efficacy testing. Rational drug design may require different scientific disciplines to identify and validate appropriate therapeutic targets, devise suitable delivery systems, and test the efficacy and safety of such agents in animal models.

Awards: Applicants may request up to \$1.5 million per year total direct costs excluding consortium F&A

Letter of Intent: Not required

Proposal Submission Deadline: April 13, 2021; February 9, 2022; February 9, 2023

All applications are due by 5:00 PM local time of applicant organization.

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: Tony Gover, Ph.D.; National Eye Institute (NEI); Telephone: 301- 451-2020
Email: tony.gover@nih.gov

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

Grant Program: FY21 Young Investigator Program

Agency: Department of Defense Office of Naval Research N00014-21-S-F001

Website: <https://www.onr.navy.mil/work-with-us/funding-opportunities/announcements>

Brief Description: The Office of Naval Research (ONR) is interested in receiving proposals for its Young Investigator Program (YIP). ONR's Young Investigator Program seeks to identify and support academic scientists and engineers who are in their first or second full-time tenure-track or tenure-track-equivalent academic appointment, who have received their PhD or equivalent degree on or after 01 January 2013, and who show exceptional promise for doing creative research. The objectives of this program are to attract outstanding faculty members of Institutions of Higher Education (hereafter also called "universities") to the Department of the Navy's Science and Technology (S&T) research program, to support their research, and to encourage their teaching and research careers. Individuals who are holding U.S. non-profit equivalent positions are also encouraged to apply.

Proposals addressing research areas (as described in the ONR Science and Technology Department section of ONR's website at www.onr.navy.mil) which are of interest to ONR program officers will be considered. Contact information for each division (a subgroup of an S&T Department) is also listed within the S&T section of the website.

Applicants are STRONGLY ENCOURAGED to contact the appropriate Program Officer who is the point of contact for a specific technical area to discuss their research ideas. A list of most Program Officers and their contact information can be found at: <https://www.onr.navy.mil/our-research/technology-areas> or at: <https://www.onr.navy.mil/our-research/> our-program-managers.

Brief informal pre-proposals may be submitted to facilitate these discussions but are not required. Such discussions can clarify the content and breadth of the priority research areas and enhance the match between a subsequent proposal and Department of the Navy research needs. Please allow adequate time for such discussions with the ONR Program Officer. The brief informal pre-proposal should be emailed to the ONR Program Officer with ONRYIP@navy.mil on the cc: line.

Awards: Award Ceiling: \$6,000,000; Award Floor: \$2,000,000

Letter of Intent: Please contact the program director

Proposal Deadline: March 26, 2021

Contact Information: Anastasia Lenfest Grant Specialist Phone 7035882866

[Business Contact](#)

Grant Program: Joint Artificial Intelligence Center Test and Evaluation Blanket Purchase Agreement Request for Proposal

Agency: Department of Defense W52P1J21R0029

Website:

https://beta.sam.gov/opp/93bc03aa061e43c0b5567ae8e33e9c2b/view?keywords=%22joint%20artificial%20intelligence%20cetner%22&sort=-relevance&index=&is_active=true&page=1&date_filter_index=0&inactive_filter_values=false

Brief Description: The purpose of this solicitation is to form multiple Blanket Purchase Agreements (BPAs) with Offerors who can provide Test and Evaluation (T&E) services available to the Joint Artificial Intelligence Center (JAIC), Department of Defense, and the entire U.S. Government as described in the Performance Work Statement (PWS.) This BPA will be open for ordering to the U.S. Government in support of AI T&E.

Awards: TBA

Letter of Intent: Please contact the program director

Proposal Deadline: March 05, 2021

Contact Information: Kristine Pennock Phone: 3097822293 kristine.s.pennock.civ@mail.mil

Grant Program: Funding Opportunity Announcement (FOA) for the National Defense Education Program (NDEP) for Science, Technology, Engineering, and Mathematics (STEM), and Biotechnology Education, Outreach, and Workforce Initiative Programs and Enhanced Civics Education

Agency: Department of Defense HQ0034-21-S-F001

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=330319>

Brief Description: The Department of Defense (DoD) National Defense Education Program (NDEP) seeks innovative applications on mechanisms to implement Science, Technology, Engineering, and Mathematics (STEM) education, outreach, and/or workforce initiative programs, here onto referred as STEM activities. NDEP also seeks innovative applications on mechanisms to specifically implement Biotechnology outreach and workforce development, which here onto will be referred as Biotech activities. Additional NDEP efforts also includes a pilot program in Enhanced Civics education.

The Department intends to award multiple grants in STEM activities, Biotech activities, and Enhanced Civics subject to the availability of funds. Applications for larger amounts may be considered on a case-by-case basis.

1. For STEM activities, there will be two (2) award levels:
 - (i) STEM activities with maximum award of \$3,000,000 over 3 years;
 - (ii) Scalable STEM activities with maximum award of \$6,000,000 over four (4) years.
2. For Biotech activities, awards will have a maximum award of \$3,000,000 over three (3) years.
3. For Enhanced Civics education, there will be one award, with a maximum of \$2,000,000 for a period of two (2) years.

NOTE: Respondents are not required to address all three focus areas, but should direct their responses to one of the areas, 1 (STEM), 2 (Biotech), or 3 (Enhanced Civics Education).

Awards: Award Ceiling: \$6,000,000; ward Floor: \$2,000,000

Letter of Intent: Please see below.

Proposal Deadline: This FOA has a two-step application process, starting with a **MANDATORY** white paper submission. Selected applicants will be **invited by the Government via email** to submit a full technical application on Grants.gov for evaluation and possibly award consideration. White papers that fail to address the areas listed in the Funding Opportunity Description will not be evaluated and will not receive an invitation to submit a full technical application.

Contact Information: Chrissandra Smith Grantor [work email](#)

Grant Program: Research Interests of the United States Air Force Academy

Agency: Department of Defense Air Force Academy USAFA-BAA-2021

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=330175>

Brief Description: The USAFA invests in an active research program for three main reasons. First and foremost, research significantly enhances the cadet learning experience. Our research is done by, for and with cadets who work alongside fellow cadets and faculty mentors. Research provides cadets with rich independent learning opportunities as they tackle ill-defined problems and are challenged to apply their knowledge and abilities. Second, our research program provides opportunities essential for faculty development. Research broadens and deepens the experience base of the faculty. This infuses current, relevant, state-of-the-art and cutting-edge applications and examples into the curriculum. This also helps our faculty remain current in their respective fields. Third, at USAFA we strive to conduct research to enhance the ability of the Air Force to perform its mission. There are ongoing research projects spanning topics as diverse as super hypersonics, cyber security, spatial disorientation, athletic performance and homeland defense. This BAA offers a vehicle for research to be performed to satisfy these three objectives, while also meeting research needs of industry counterparts/serve a public purpose. USAFA's

partnerships with non-Government firms enables development in the public arena, stimulating the studies in the greater technical community. All awards issued against this BAA must serve to benefit the objectives identified above.

Awards: It is anticipated awards will be made in the form of any appropriate contract type under the FAR or NonFAR instruments (i.e., Other Transaction (OT) for research efforts, or grants and cooperative agreements).

Letter of Intent: Please see below.

Proposal Deadline: USAFA is seeking unclassified research white papers and proposals that do not contain proprietary information. Requests for white papers/proposals are also transmitted via calls which may be published separately from the BAA at various times during the open period of the BAA.

This announcement remains open until superseded. White papers are reviewed and evaluated as they are received and may be submitted at any time. The white paper/proposal submission process is discussed in sections IV and V of this BAA. Proposals will be due according to specific instructions contained in a separate RFP notice resulting from favorable white paper evaluations or calls issued against this BAA.

Contact Information: Erica Wilson Contracting-Grants Officer Phone 719-333-8048
[10 CONS/PKC Assistance Org Email Box](#)

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:

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Department of Transportation

Grant Program: 2021 High Priority Program – Innovative Technology Deployment (HP-ITD)

Agency: Department of Transportation FM-MHP-21-002

Website: <https://www.grantsolutions.gov/gs/preaward/previewPublicAnnouncement.do?id=91864>

Brief Description: These activities are supported in alignment with the U.S. Department of Transportation’s strategic goals of: • SAFETY: Reduce transportation-related fatalities and serious injuries across the transportation system. • INFRASTRUCTURE: Invest in infrastructure to ensure safety, mobility and accessibility and to stimulate economic growth, productivity and competitiveness for American workers and businesses. • INNOVATION: Lead in the development and deployment of innovative practices and technologies that improve the safety and performance of the Nation’s transportation system. • ACCOUNTABILITY: Serve the Nation with reduced regulatory burden and greater efficiency, effectiveness and accountability. This NOFO provides important information about the HP-ITD safety priorities, highlighting the critical information related to preparing and submitting an application.

Award: Various up to \$2,000,000 per award; Available funding: \$20,000,000

Letter of Intent: Not Required

Proposal Deadline: March 15, 2021

Contact Information: Thomas Kelly, Phone: 202-480-5240; Thomas.Kelly@dot.gov

Grant Program: INFRA Grants

Agency: Department of Transportation NSFHP-21-INFRA21 [\[Related Opportunities\]](#)

Website: <https://www.transportation.gov/buildamerica/financing/infra-grants/infrastructure-rebuilding-america>

Brief Description: The Nationally Significant Freight and Highway Projects (NSFHP) program provides Federal financial assistance to highway and freight projects of national or regional significance. This discretionary grant program was established in the 2015 Fixing America’s Surface Transportation (FAST) Act. This program, previously known as FASTLANE, was renamed the Infrastructure For Rebuilding America (INFRA) program in 2017.

Eligible projects for INFRA grants are: highway freight projects carried out on the National Highway Freight Network (23 U.S.C. 167); highway or bridge projects carried out on the National Highway System (NHS), including projects that add capacity on the Interstate System to improve mobility or projects in a national scenic area; railway-highway grade crossing or grade separation projects; or a freight project that is 1) an intermodal or rail project, or 2) within the boundaries of a public or private freight rail, water (including ports), or intermodal facility. A project within the boundaries of a freight rail, water (including ports), or intermodal facility must be a surface transportation infrastructure project necessary to facilitate direct intermodal interchange, transfer, or access into or out of the facility and must significantly improve freight movement on the National Highway Freight Network. Improving freight movement on the National Highway Freight Network may include shifting freight transportation to other modes, thereby reducing congestion and bottlenecks on the National Highway Freight Network. For a freight project

within the boundaries of a freight rail, water (including ports), or intermodal facility, Federal funds can only support project elements that provide public benefits.

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: March 05, 2021

Contact Information: Paul Baumer Program Manager Phone 202-366-1092 [Program Manager](#)

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Department of Agriculture:

Grant Program: Equipment Grants Program

Agency: Department of Agriculture National Institute of Food and Agriculture USDA-NIFA-OP-008139

Website: <https://nifa.usda.gov/funding-opportunity/equipment-grant-program-egp>

Brief Description: The Equipment Grant Program (EGP) serves to increase access to shared-use special purpose equipment/instruments for fundamental and applied research for use in the food and agricultural sciences programs at institutions of higher education, including State Cooperative Extension Systems. The program seeks to strengthen the quality and expand the scope of fundamental and applied research at eligible institutions, by providing them with opportunities to acquire one major piece of equipment/instruments that support their research, training, and extension goals and may be too costly and/or not appropriate for support through other NIFA grant programs.

Awards: Grant from \$25,000 to \$500,000; Available funding: \$4,800,000

Letter of Intent: Encouraged but not required

Proposal Deadline: March 16, 2021

Contact Information: Contact at: [Carlos Ortiz, PhD](#)

Grant Program: Scientific Cooperation Research Program (SCRP)

Agency: Department of Agriculture USDA-FAS-10961-0700-10-21-0001

Website: <https://govtribe.com/opportunity/federal-grant-opportunity/scientific-cooperation-research-program-scrp-usdafas10961070010210001>

Brief Description: The Scientific Cooperation Research Program (SCRP) supports FAS' Borlaug Fellowship Program and other strategic goals and utilizes the scientific communities' accumulated knowledge and technologies to help aid in developing practical solutions to address issues including agricultural trade and market access, animal and plant health, biotechnology, food safety and security, and sustainable natural resource management. All applications must include foreign collaborations, and projects should not exceed two years. Funding may be allocated to foreign collaborators through sub-awards. Background The Scientific Cooperation Research Program (SCRP) is a Foreign Agricultural Service Office, (FAS) administered program that has been in existence for several decades. Historically, SCRCP has funded hundreds of collaborative research programs between U.S. and foreign scientists.

Awards: This program supports up to 10 collaborative research programs annually, up to \$50,000.

Proposal Deadline: March 01, 2021

Contact Information: Isaac Ehlers-Weiss (202)690-5080 [USDA email address](#)

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: Workforce Pathways for Youth Grant Program

Agency: Department of Labor FOA-ETA-21-01

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=330348>

Brief Description: This Announcement solicits applications for the Workforce Pathways for Youth grant program. The purpose of this program is to increase alignment between workforce and OST programs and expand job training and workforce pathways for youth and disconnected youth including soft skill development, career exploration, job readiness and certification, summer jobs, year-round job opportunities, and apprenticeships. The grant program, as outlined in the Department of Labor Appropriations Act, 2020 (Public Law 116-94) Statement of Managers, provides \$10,000,000 to utilize the demonstration grant authority under the dislocated worker national reserve for grants to support national out-of-school time (OST) organizations that serve youth. These grants will place an emphasis on age-appropriate workforce readiness programming to expand job training and workforce pathways for youth, including soft skill development, career exploration, job readiness and certification, summer jobs, year-round job opportunities, and apprenticeships. Funding will also support partnerships between workforce boards and youth serving organizations.

Awards: Awards up to \$5,000,000; Awards floor: \$3,300,000. Anticipated available funding: \$10,000,000.

Proposal Deadline: February 4, 2021

Contact Information: Denise Roach Grants Management Specialist Roach.Denise@dol.gov

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[Department of Commerce/EDA](#)

Grant Program: Graduate Student Measurement Science and Engineering (GMSE) Fellowship Program

Agency: U.S. Department of Commerce NIST 021-NIST-GMSE-01

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=331314>

Brief Description: The NIST's Graduate Student Measurement Science and Engineering (GMSE) Fellowship Program is seeking applications from eligible applicants for activities to provide master's and doctoral-level graduate students with opportunities and financial assistance to obtain laboratory experiences within the NIST laboratories in the science, technology, engineering and mathematics (STEM) disciplines. The recipient will work with NIST to foster collaborative STEM research relationships among NIST, master's and doctoral level graduate students, and the students' academic institutions.

Awards: NIST may fund up to approximately \$3,250,000 for the GMSE Fellowship Program over five (5) years.

Letter of Intent: Contact the program director.

Proposal Deadline: Full Applications must be received at Grants.gov no later than 11:59 p.m. Eastern Time, Tuesday, March 23, 2021.

Contact Information: Christopher Hunton Management and Program Analyst Phone 301-975-5718
[Agency Contact](#)

Grant Program: Measurement Science and Engineering (MSE) Research Grant Programs

Agency: U.S. Department of Commerce NIST 2021-NIST-MSE-01

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=331121>

Brief Description: NIST is soliciting applications for financial assistance for Fiscal Year 2021 (FY21) within the following NIST grant programs:

- (1) the Associate Director for Innovation and Industry Services (ADIIS);
- (2) the Associate Director for Laboratory Programs (ADLP);
- (3) the Communications Technology Laboratory (CTL);
- (4) the Engineering Laboratory (EL);
- (5) Fire Research (FR);
- (6) the Information Technology Laboratory (ITL);
- (7) the International and Academic Affairs Office (IAAO);
- (8) the Material Measurement Laboratory (MML);
- (9) the NIST Center for Neutron Research (NCNR);
- (10) the Physical Measurement Laboratory (PML);
- (11) the Special Programs Office (SPO); and
- (12) the Standards Coordination Office (SCO).

Awards: Various; Grants or cooperative agreements

Letter of Intent: Contact the program director.

Proposal Deadline: Applications will be accepted and considered on a rolling basis as they are received.

Contact Information: Misty L Roosa Management Analyst Phone 301-975-3007

[Agency Contact](#)

Grant Program: FY 2021 NIST Small Business Innovation Research Program (SBIR) Phase I

Agency: U.S. Department of Commerce NIST 2021-NIST-SBIR-01

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=331104>

Brief Description: The National Institute of Standards and Technology (NIST) invites small businesses to submit Phase I research applications under this Notice of Funding Opportunity (NOFO). Science and technology-based firms with strong research capabilities in any of the areas listed in Section 9.0 of this

NOFO are encouraged to participate. Applications must sufficiently identify and clearly address a specific NIST technical program area that falls within one of the research areas described in Section 9.0 (see Section 3.02.02(1)) or a NIST- patented technology available for licensing.

The statutory purpose of the SBIR Program is to strengthen the role of innovative small business concerns (SBCs) in Federally-funded research or research and development (R/R&D). Specific program goals are to: (1) stimulate technological innovation; (2) use small business to meet Federal R/R&D needs; (3) foster and encourage participation by socially and economically disadvantaged small businesses and by women-owned small businesses in technological innovation; and (4) increase private sector commercialization of innovations derived from Federal R/R&D, thereby increasing competition, productivity, and economic growth.

The NIST FY 2021 SBIR program identifies and solicits applications in topics that fall within NIST's mission and allow collaboration between NIST scientists and the SBIR awardees whenever possible.

Awards: Each Phase I award is for up to \$100,000 and up to a six (6) month period of performance. Up to an additional \$6,500 may be requested for Technical and Business Assistance (TABAs)

Letter of Intent: Contact the program director.

Proposal Deadline: April 14, 2021

Contact Information: Christopher Hunton Management and Program Analyst Phone 301-975-5718
[Agency Contact](#)

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

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[EPA](#)

Grant Program: FY 2021 National Environmental Information Exchange Network Grant Program

Agency: Environmental Protection Agency EPA-OMS-21-01

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=331293>

Brief Description: The EPA Exchange Network Grant Program is soliciting project applications using the Environmental Information Exchange Network (EN) to:

- Facilitate sharing of environmental data, especially through shared and reusable services.
- Reduce burden and avoid costs for co-regulators and the regulated community.
- Streamline data collection and exchanges to improve its timeliness for decision making.
- Increase the quality and access to environmental data through discovery, publishing, outbound and analytical services so it is more useful to environmental managers.
- Increase data and IT management capabilities needed to fully participate in the EN.

Award: In FY21, EPA expects to award about \$8,000,000 in 20-30 assistance agreements of up to \$400,000 each.

Submission Deadline: March 31, 2021; 11:59 PM Eastern.

Contact: Erika Beasley Office of Information Management Information Exchange Partnership Branch
Phone: (202) 566-2530 Fax: (202) 566-1684 beasley.erika@epa.gov

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[Department of Energy](#)

Grant Program: OPEN 2021

Agency: Department of Energy Advanced Research Projects Agency Energy DE-FOA-0002459

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=331457>
<https://arpa-e-foa.energy.gov/>

Brief Description: ARPA-E's focused programs target specific areas of technology that the agency has identified, through extensive interaction with the appropriate external stakeholders, as having significant potential impact on one or more of the Mission Areas described in Section I.A of the FOA. Awards made in response to the solicitation for focused programs support the aggressive technical targets established in that solicitation. Taken in total, ARPA-E's focused technology programs cover a significant portion of the spectrum of energy technologies and applications.

ARPA-E's OPEN FOAs ensure that the agency does not miss opportunities to support innovative energy R&D that falls outside of the topics of the focused technology programs or that develop after focused solicitations have closed. OPEN FOAs provide the agency with a broad sampling of new and emerging opportunities across the complete spectrum of energy applications and allow the agency to "take the pulse" of the energy R&D community. OPEN FOAs have been and will continue to be the complement to the agency's focused technology programs – a unique combination of approaches for supporting the most innovative and current energy technology R&D. For instance, one-third of the sixty examples of most successful ARPA-E projects featured in ARPA-E Impact volumes (<https://arpa-e.energy.gov/about/our-impact>) resulted from OPEN solicitations. Potential applicants to this FOA are strongly encouraged to examine the OPEN projects in these volumes and all of the projects supported in the previous four OPEN solicitations (<https://arpa-e.energy.gov/technologies/open-programs>) for examples of the creative and innovative R&D ARPA-E seeks in its OPEN solicitations.

Awards: Approximately \$100 million, subject to the availability of appropriated funds. Awards may vary between \$250,000 and \$10 million.

Letter of Intent: Please see below.

Submission Deadline: First Deadline for Questions to ARPA-E-CO@hq.doe.gov: 5 PM ET, March 26, 2021 Submission Deadline for Concept Papers: 9:30 AM ET, April 6, 2021 Second Deadline for

Questions to ARPA-E-CO@hq.doe.gov: 5 PM ET, TBD Submission Deadline for Full Applications: 9:30 AM ET, TBD

Contact: ARPA-E-CO@hq.doe.gov Please contact the email address above for questions regarding Funding Opportunity Announcements. ARPA-E will post responses on a weekly basis to any questions that are received. ARPA-E may re-phrase questions or consolidate similar questions for administrative purposes.

Grant Program: Chemical Upcycling of Polymers

Agency: Department of Energy DE-FOA-0002462

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=331402>

Brief Description: The DOE SC program in Basic Energy Sciences (BES) announces its interest in receiving applications on behalf of single investigators and teams of investigators, which may involve multiple institutions, to support fundamental experimental and theoretical efforts that advance chemical upcycling of polymers and circular design of next-generation plastics. The term “plastic” describes a wide array of polymeric materials with diverse compositions and properties. Finished plastic products may include multiple polymeric components and often contain additives to obtain desirable physical, chemical, or mechanical properties. Understanding of chemical approaches that make use of end-of-life plastic products as feedstocks to regenerate the same product, or otherwise upcycle them to new, more valuable products, is limited. BES seeks innovative fundamental research that creates the scientific foundations for new technology solutions to reduce plastic waste, lower the energy impacts of plastic production through chemical upcycling, and create energy- and carbon-efficient feedstocks for valuable products through chemical upcycling of polymers.

The BES mission is to support fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels to provide the foundations for new energy technologies and to support DOE missions in energy, environment, and national security. BES also supports world-class, open-access scientific user facilities consisting of a complementary set of intense x-ray sources, neutron sources, and research centers for nanoscale science. Further information about BES research programs can be found at: • Chemical Sciences, Geosciences, and Biosciences: <https://science.osti.gov/bes/csgb> • Materials Sciences and Engineering: <https://science.osti.gov/bes/mse>

Awards: Up to \$1,500,000. DOE anticipates that, subject to the availability of future year appropriations, a total of up to \$25 million in current and future fiscal year funds will be used to support awards under this FOA.

Letter of Intent: Please see below.

Submission Deadline: Submission Deadline for Pre-Applications: March 1, 2021 at 11:59 PM Eastern Time. A Pre-Application is required Pre-Application Response Date: March 15, 2021 Submission Deadline for Applications: April 12, 2021 at 11:59 PM Eastern Time

Contact: Dr. Chris Bradley, Basic Energy Sciences, Chemical Sciences, Geosciences, and Biosciences Division Chris.Bradley@science.doe.gov

Grant Program: X-Strack: Programming Environments for Scientific Computing

Agency: Department of Energy DE-FOA-0002460

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=331171>

Brief Description: The DOE SC program in Advanced Scientific Computing Research (ASCR) hereby announces its interest in basic research in computer science exploring innovative approaches to creating, verifying, validating, optimizing, maintaining, and executing scientific software targeting distributed, heterogeneous, high-performance computing platforms.

Each pre-application and application must address at least one of two research areas: 1. Automated test synthesis: Innovative methods for automatically generating tests for scientific applications to ensure that, within scientifically-relevant regimes, their behavior meets user-defined requirements and they function with the required level of equivalence across different distributed, heterogeneous, HPC platforms. All aspects of program behavior can be considered, including performance. Additional considerations may include, but are not limited to, the following objectives and the tradeoffs between them: • How to best interact with human programmers to obtain otherwise-unavailable information and/or present results. • How to minimize the number, size, and/or complexity of the generated tests. • How to minimize the execution time and/or usage of expensive/large-scale resources for testing. • How to maximize the likelihood of discovering defects and/or the determinism of the testing process. • How to provide information helpful to isolating the causes of failures. 2. Parallel-programming-model translation: Innovative methods enabling the transformation of scientific applications that make use of one parallel-programming model into applications that target heterogeneous systems using a different parallel programming model. Additional considerations may include, but are not limited to, the following objectives and the tradeoffs between them: • How, and to what extent, can behavioral equivalence be preserved by the translation process. • How to minimize the size and/or complexity of the generated code. • How to maximize the performance, readability, and/or naturalness (e.g., similarity to idiomatic usage of language constructs) of the generated code. • How to enable the continued maintenance of the transformed application.

Awards: • DOE National Laboratories: \$900,000 per year • All other applicants: \$300,000 per year For collaborative applications, this ceiling applies per collaborating site. The total budget of the collaboration may not exceed \$1,200,000 per year.

Letter of Intent: Please see below.

Submission Deadline: Submission Deadline for Pre-Applications: March 1, 2021 at 11:59 PM Eastern Time. A Pre-Application is required Pre-Application Response Date: March 15, 2021 Submission Deadline for Applications: April 12, 2021 at 11:59 PM Eastern Time

Contact: Hal Finkel Program Manager Phone 302-912-7428

[Program Manager email](#)

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[NASA](#)

Grant Program: New (Early Career) Investigator Program in Earth Science: not solicited in ROSES-21

Agency: NASA NNH21ZDA001N-NIP

Website: <https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7BC31820ED-A589-B008-7448-1014FCA16C49%7D&path=&method=init>

Brief Description: The New (Early Career) Investigator Program in Earth science is designed to support outstanding scientific research and career development of scientists and engineers at the early stage of their professional careers. The program welcomes innovative research initiatives and seeks to cultivate diverse scientific leadership in Earth system science. The Earth Science Division (ESD) places particular emphasis on the investigators' ability to promote and increase the use of space-based remote sensing through the proposed research. Proposals with objectives connected to needs identified in most recent Decadal Survey Thriving on our Changing Planet: A Decadal Strategy for Earth Observation from Space are welcomed. The program supports all aspects of scientific and technological research aimed to advance

NASA's mission in Earth system science (See the Science Plan at <http://science.nasa.gov/about-us/science-strategy/>). In research and analysis, the focus areas are: • Carbon Cycle and Ecosystems, • Climate Variability and Change, • Water and Energy Cycle, • Atmospheric Composition, • Weather, and • Earth Surface and Interior

Awards: TBD

Notice of Intent: Please see below

Proposal Deadline: This program is NOT soliciting proposals this year. The 'close date' of 02/14/2022 advertised above is not a proposal due date; NSPIRES requires that a specific close date be given. Please see the program element document above for details.

Contact: Allison Leidner Earth Science Division Science Mission Directorate NASA Headquarters Washington, DC 20546-0001 Telephone: 202-358-0855 Email: Allison.K.Leidner@nasa.gov

Grant Program: ROSES 2020: Heliophysics Flight Opportunities in Research and Technology

Agency: NASA NNH20ZDA001N-HFORT

Website: <https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7BDBCE844C-1D0B-D36A-12A6-86FC953F1B6C%7D&path=&method=init>

Brief Description: The Heliophysics Flight Opportunities in Research and Technology (H-FORT) program seeks to fund space and sub-orbital science and science-enabling investigations that use platforms that include SmallSats (including CubeSats), Balloon Missions, and Hosted Rideshare Payloads, such as International Space Station (ISS)-attached payloads. The program encourages the development of technologies that will enable investigation of heliophysics science questions. All proposed investigations must be responsive to NASA Heliophysics Science Goals. H-FORT is a component of the Heliophysics Research Program and proposers interested in this program element are encouraged to see B.1 The Heliophysics Research Program Overview for Heliophysics-specific requirements and Science Goals and objectives. Common requirements for all ROSES elements are found in the ROSES Summary of Solicitation and the 2020 Proposer's Guidebook (https://prod.nais.nasa.gov/pub/pub_library/srba/proposers_guidebooks.html). The order of precedence is the following: B.11 (this document) followed by B.1, followed by the ROSES Summary of Solicitation, and the Proposer's Guidebook. Proposers should be familiar with all of these resources.

Awards: Available funding: \$3,000,000

Notice of Intent: Not required.

Proposal Deadline: March 26, 2021

Contact: Dan Moses, Telephone: (202) 358-0558 Email: dan.moses@nasa.gov

Amy Winebarger, Telephone: (256) 961-7509 Email: amy.r.winebarger@nasa.gov

Grant Program: Earth Science Applications: Health and Air Quality

Agency: NASA NNH21ZDA001N-HAQ

Website: <https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7B78D66990-C241-F2F9-5A15-BC02AD87C40D%7D&path=&method=init>

Brief Description: The ESD Applied Sciences Program promotes efforts to discover and demonstrate innovative and practical uses of Earth observations. The Program funds applied science research and applications projects to enable near-term uses of Earth observations, formulate new applications, integrate Earth observations and related products in practitioners' decision-making, and transition the applications. The projects are carried out in partnership with public- and private-sector organizations to achieve sustained use and sustained benefits from the Earth observations. For more information visit the Applied Sciences Program website at <http://AppliedSciences.NASA.gov/>. The Program supports projects that

develop and demonstrate improvements to decision-making from the use of an array of Earth observations and related products. The Program considers that Earth observations broadly include a range of products and capabilities, including Earth-observing satellite measurements (NASA in-orbit and planned satellites, as well as foreign, commercial, and other U.S. Government satellites), outputs and predictive capabilities from Earth science models, algorithms, visualizations, knowledge about the Earth system, and other geospatial products. Hereinafter, this set is referred to collectively as "Earth observations".

Awards: \$3M total per year; Expected Range of Award per project: \$250-350K per year

Notice of Intent: Please see below

Proposal Deadline: June 18, 2021

Contact: John Haynes Applied Sciences Program Earth Science Division Science Mission Directorate
NASA Headquarters Washington, DC 20546-0001 Telephone: (202) 358-4665 Email:

jhaynes@nasa.gov

Grant Program: Advanced Information Systems Technology

Agency: NASA NNH21ZDA001N-AIST

Website: <https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7BA09EE863-2451-31C0-81AB-6B54FF19F103%7D&path=&method=init>

Brief Description: The AIST Program identifies, develops, and supports the adoption of novel information systems that respond to future Earth Science's needs in a 5-10-year timeframe. The program employs an end-to-end approach to advance technologies – from the design of future observation systems and strategies for the space segment, where the information lifecycle begins, to the end user where knowledge and science data intelligence is advanced, and potentially back to additional observation strategies to complement existing data and products and to improve science and forecast models and science understanding. By providing novel means to acquire new measurements using new observing strategies and distributed sensing, as well as tools to integrate and analyze these measurements using novel analytics frameworks and computational environments, AIST technologies address the future needs of Earth Science research, applied science, and other domains.

Awards: Various

Notice of Intent: Please see below

Proposal Deadline: This program element is expected to solicit proposals this year, but final details and dates are not yet determined

Contact: Jacqueline Le Moigne Earth Science Technology Office National Aeronautics and Space Administration Washington, DC 20546-0001 Telephone: (301) 286-8723 Email: Jacqueline.j.lemoigne-stewart@nasa.gov

Grant Program: Heliophysics Supporting Research

Agency: NASA NNH21ZDA001N-HSR

Website: <https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7B0C45316A-C6E9-9A2F-83FD-D2A80EC1E93A%7D&path=&method=init>

Brief Description: Heliophysics Supporting Research (SR) awards are research investigations of significant magnitude that employ a combination of scientific techniques. These must include an element of (a) theory, numerical simulation, or modeling, and an element of (b) data analysis and interpretation of NASA-spacecraft observations. HSR is a component of the Heliophysics Research Program and proposers interested in this program element are encouraged to see B.1, The Heliophysics Research Program Overview for Heliophysics-specific requirements. Common requirements for all ROSES elements and proposals are found in the ROSES Summary of Solicitation and the Proposer's Guidebook

and the order of precedence for proposers is the following: ROSES Element B.2 (this document) takes precedence followed by B.1, The Heliophysics Research Program Overview, followed by the ROSES Summary of Solicitation and, finally, the Proposer's Guidebook. Proposers should be familiar with all of these resources.

Awards: Expected program budget for first year of new awards ~\$6.0M

Notice of Intent: Due date for Step-1 proposals TBA

Proposal Deadline: TBA

Contact: Patrick Koehn Heliophysics Division Science Mission Directorate NASA Headquarters Washington, DC 20546-0001 Telephone: (202) 358-3636 Email: patrick.koehn@nasa.gov

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National Endowment of Humanities

Grant Program: Humanities Initiatives

Agency: National Endowment for the Humanities 20210520-AA-AB-AC-AD-AE

Website: <https://www.neh.gov/grants/preservation/research-and-development>

Brief Description: The National Endowment for the Humanities (NEH) Division of Education Programs is accepting applications for the five Humanities Initiatives programs: Humanities Initiatives at Colleges and Universities, Humanities Initiatives at Hispanic-Serving Institutions, Humanities Initiatives at Historically Black Colleges and Universities, Humanities Initiatives at Tribal Colleges and Universities, and Humanities Initiatives at Community Colleges. The purpose of these programs is to strengthen the teaching and study of the humanities at institutions of higher education by developing new humanities programs, resources (including those in digital format), or courses, or by enhancing existing ones.

Award: Maximum award amount: \$150,000 per award; Available funding: \$3,000,000

Proposal Deadline: May 21, 2021

Contact: Division of Education Programs National Endowment for the Humanities 400 Seventh Street, SW Washington, DC 20506 202-606-2324 hi@neh.gov

Grant Program: Research and Development

Agency: National Endowment for the Humanities 20210518-PR

Website: <https://www.neh.gov/grants/preservation/research-and-development>

Brief Description: The Research and Development program supports projects that address major challenges in preserving or providing access to humanities collections and resources. These challenges include the need to find better ways to preserve materials of critical importance to the nation's cultural heritage—from fragile artifacts and manuscripts to analog recordings and digital assets subject to technological obsolescence—and to develop advanced modes of organizing, searching, discovering, and using such materials.

This program supports projects at all stages of development, from early planning and stand-alone studies, to advanced implementation. Research and Development projects contribute to the evolving and expanding body of knowledge for heritage practitioners, and for that reason, outcomes may take many forms. Projects may produce any combination of laboratory datasets, guidelines for standards, open access software tools, workflow and equipment specifications, widely used metadata schema, or other products.

Research and Development supports work on the entire range of humanities collection types including, but not limited to, moving image and sound recordings, archaeological artifacts, born digital and time-

based media, rare books and manuscripts, archival records, material culture, and art. Applicants must demonstrate how advances in preservation and access through a Research and Development project would benefit the cultural heritage community by supporting humanities research, teaching, or public programming.

Research and Development projects are encouraged to address one or more of the following areas of special interest:

- **Preserving our audiovisual and digital heritage**
- **Conserving our material past**
- **Protecting our cultural heritage**
- **Serving under-represented communities**

For more information about the program, you may refer to the pre-recorded [webinar](#). Please note, the webinar was recorded in 2020 and therefore deadlines are outdated. An updated pre-recorded webinar for 2021 will be posted by March 4, 2021.

Award: Maximum award amount Tier I provides awards up to \$75,000; Tier II provides awards up to \$350,000

Proposal Deadline: Application due May 18, 2021

Contact: Division of Preservation and Access Team 202-606-8570; preservation@neh.gov

Grant Program: Awards for Faculty

Agency: National Endowment for the Humanities 20210414-HB

Website: <https://www.neh.gov/divisions/research>

Brief Description: The Division of Research supports scholarly research that advances knowledge and understanding of the humanities. Through twelve annual funding opportunities, awards are made to scholars—individuals, collaborative teams, or institutions—working on research projects of significance to specific humanities fields and to the humanities as a whole. The projects that the division supports are as diverse as America itself: editions of the Dead Sea Scrolls, the history of “The Star Spangled Banner,” and the autobiography of Mark Twain.

While Research Programs is the only NEH division to make awards to individuals, institutional grants are also available. **Collaborative Research** supports projects by teams of scholars. **Scholarly Editions and Scholarly Translations** provides funding for time-intensive editing projects such as the [Papers of George Washington](#), and **Fellowship Programs at Independent Research Institutions** provides American scholars access to unique collections at American centers for humanities research around the world.

Award: Various

Proposal Deadline: Application due April 18, 2021

Contact: Division of Research Programs: (202) 606-8200 research@neh.gov

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Private Foundations

New Jersey Commission on Spinal Cord Research

Grant Program: NJCSR Research Program

Agency: New Jersey Commission on Spinal Cord Research (NJCSR)

Website: <https://nj.gov/health/spinalcord/>
<https://nj.gov/health/spinalcord/documents/researchpgr.pdf>

Brief Description: NJCSCR awards are intended to promote innovative, groundbreaking research, not to provide long-term support. Grantees are eligible to apply for funding for additional research projects, but all applications will be reviewed competitively

The NJCSCR is committed to accelerating research to develop effective interventions and cures for paralysis and other consequences of spinal cord injury and disease. Its primary objectives are:

- To advance the field of spinal cord repair and regeneration and the New Jersey research community by encouraging established scientists to apply their expertise to the spinal cord.
- To facilitate the application of innovative ideas from other areas of science to the challenges of spinal cord injury repair.
- To foster collaborative, interdisciplinary approaches to spinal cord research.
- To nurture the next generation of spinal cord researchers through support of young scientists and postdoctoral fellows.
- To prevent or treat secondary biological conditions resulting from spinal cord injury.
- To promote dissemination of the research findings generated by those scientists supported by the NJCSCR.

Awards: The NJCSCR will offer two types of grant awards: Exploratory Research Grants and Postdoctoral and Graduate Fellowship Grants. All qualifying institutions in the State of New Jersey may apply.

Exploratory Research Grant Awards: The purpose of the Exploratory Research Grant award is to enable independent investigators to apply their specific expertise to spinal cord research. The award is designed to provide the resources necessary to acquire preliminary data that will allow the successful applicant to obtain continued support from the NJCSCR, NIH, and/or other funding agencies. It is specifically intended to facilitate the application of innovative ideas from other areas of science to the challenges of spinal cord injury and repair. Two-year non-renewable awards are offered to applicants at a maximum funding level of up to \$100,000 per year including direct and indirect costs, (10% maximum for the latter). All awards are made through one-year contracts.

Postdoctoral and Graduate Student Fellowship Grants Awards: Postdoctoral Fellowships are three-year awards of \$50,000 per annum. They provide an annual stipend of \$36,000, a research allowance of \$13,000, and a travel budget of \$1,000. No part of the award may be used for institutional overhead or indirect costs. Institutions may supplement stipends, but not with other full-time fellowship awards, or other NJCSCR monies.

Letter of Intent: Not required

Proposal Deadline: For all grant categories, applicants must complete an online application. Online applications must be submitted via the SAGE system no later than 3:00PM, MAY 3, 2021.

Contact: Contact NJCSCR at Phone: (609) 913-5005; NJCSCR@doh.nj.gov

New Jersey Historical Foundation

Grant Program: FY 2022 Project Grant

Agency: New Jersey Historical Foundation

Website: [Project Grant FY 2022 Guidelines](#)

Brief Description: Goals of the Grant Program: The goal of the grant program is to engage diverse audiences in the active exploration, enjoyment, interpretation, understanding, and preservation of New Jersey history. Grants are awarded to projects that achieve this objective. Successful proposals may do so through one or more of the following: • Broadening, deepening, and diversifying the audiences for New Jersey history • Strengthening existing New Jersey history organizations or programs • Initiating new programming on New Jersey history • Increasing accessibility of historical resources to diverse

communities • Increasing the body and quality of information on New Jersey history available to the public • Preserving materials for the study of New Jersey history • Promoting elements of New Jersey's history that have often been underrepresented in the past.

Awards: Applicants can request up to \$20,000 in support of their project.

Letter of Intent: March 31, 2021

Proposal Deadline: April 30, 2021.

Contact: Shawn Crisafulli (609) 826-3945 Shawn.Crisafulli@sos.nj.gov

NIH-POCTRN Centers

Grant Program: Point-Of-Care Technology Research Program

Agency: NIH POCTRN Centers

Website: [J https://www.poctrn.org/funding](https://www.poctrn.org/funding)

Brief Description: Current Funding Opportunities

POCTRN 2021 Call for Proposals

- [Microfluidics/Lab-on-a-Chip Point-of-Care Technologies](#)
Atlanta Center for Microsystems Engineered Point-of-Care Technologies
- [Development of Point-Of-Care Testing for HIV and Co-Morbidities for Use in Low and Middle Income Countries](#)
The Center for Innovation in Point of Care Technologies for HIV/AIDS at Northwestern
- [Center for Advancing Point of Care Technologies in Heart, Lung, Blood and Sleep Disorders: Funding Opportunity](#)
Center for Advancing Point of Care Technologies in Heart, Lung, Blood, and Sleep Disorders

Awards: Various

Letter of Intent: Not required

Proposal Deadline: Apply Now

Contact: Please contact POCTRN initiative: cimitcommunications@partners.org

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Streamlyne Question of the Week

Question: **How do I enter a cost share? For my salary? For other personnel and expenses?**

Answer: Cost Share for personnel other than faculty is very similar to release time –

- add the person under Key personnel
- select the period (start and end dates) that the staff/admin will be devoted to the project
- select percentage.

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

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Proposal Submission and Streamlyne Information **Internal Timeline for Successful and Timely Proposal Submission**

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

The NJIT Proposal Submission Guidelines and Policy posted on the website <https://research.njit.edu/proposal-submission-guidelines> provides the expected institutional timeline for proposal submission. Streamlyne User Manuals are posted on <https://research.njit.edu/streamlyne>. For contact information on proposal submission, pre-award services and post-award grant management, please visit research website <https://research.njit.edu/researchers> and <https://research.njit.edu/contact>.

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