

NJIT Research Newsletter

Issue: ORN-2020-48

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

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: Spectrum and Wireless Innovation enabled by Future Technologies (SWIFT); Mid-scale Research Infrastructure-2 (Mid-scale RI-2); National Science Foundation Research Traineeship (NRT) Program; Smart and Connected Communities (S&CC); Understanding the Rules of Life: Microbiome Interactions and Mechanisms (URoL:MIM); Computer and Information Science and Engineering Minority-Serving Institutions Research Expansion Program (CISE-MSI Program); Reproducible Cells and Organoids via Directed-Differentiation Encoding (RECODE); Designing Synthetic Cells Beyond the Bounds of Evolution (Designer Cells); Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science (SCH); Planning Grants for Engineering Research Centers (ERC); Campus Cyberinfrastructure (CC*); Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems (ECO-CBET)

NIH: Initiative for Maximizing Student Development (IMSD) (T32); Graduate Research Training Initiative for Student Enhancement (G-RISE) (T32); Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R21); Outstanding New Environmental Scientist (ONES) Award (R01); Analytical Validation of a Candidate Biomarker for Neurological or Neuromuscular Disorders (U44); Stephen I. Katz Early Stage Investigator Research Project Grant (R01 Clinical Trial Not Allowed)

Department of Defense/US Army/DARPA/ONR: Research Interests of the United States Air Force Academy; Data and Analysis Center (DAC); Ultra-wide Bandgap RF Electronics Center Fiscal Year 2022; Synthetic Biology; Science & Technology for Advanced Manufacturing Projects (STAMP); Energetics Basic Research Center Fiscal Year 2022; Young Faculty Award (YFA); Defense Sciences Office Office-wide; C4ISR, Information Operations, Cyberspace Operations and Information Technology System Research

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

Department of Agriculture: Scientific Cooperation Research Program (SCRIP); Community Connect Grant Program; Agriculture and Food Research Initiative - Foundational and Applied Science

Department of Labor: Supply Chains Tracing Project

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

EPA: Technical Assistance to Brownfields Communities; Viral Pathogen and Surrogate Approaches for Assessing Treatment Performance in Water

Department of Energy: Systems Biology of Bioenergy-Relevant Microbes to Enable Production of Next-Generation Biofuels and Bioproducts; Environmental System Science; Connected Communities

NASA: Heliophysics Environmental and Radiation Measurement Experiment Suite (HERMES) Interdisciplinary Science Teams; ROSES 2020: Future Investigators in NASA Earth and Space Science and Technology

[National Endowment of Humanities](#): Collaborative Research; Digital Humanities Advancement Grants

[Private Foundations](#): Whitehall Foundation: Bioscience Research Projects; NetGain Partnership: Digital Misinformation

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[Recent Research Grant and Contract Awards](#)

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

PI: Lou Kondic (PI)

Department: Mathematical Sciences

Grant/Contract Project Title: Active Oil-Water Separation Using Surface Chemistry and Acoustowetting

Funding Agency: American Chemical Society (PRF - Petroleum Research Fund)

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

PI: Pier Champagne (PI)

Department: Chemistry and Environmental Science

Grant/Contract Project Title: Elemental sulfur in organic chemistry: computational and experimental investigations of organic polysulfide intermediates

Funding Agency: American Chemical Society (Petroleum Research Fund)

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

PI: Jacob Chakareski (PI)

Department: Informatics

Grant/Contract Project Title: Automated Orientation & Mobility Training in Virtual Reality for Low Vision Rehabilitation

Funding Agency: NIH

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

PI: Vasyl Yurchyshyn (PI), Phil Goode (Co-PI) and Wenda Cao (Co-PI)

Department: Center for Solar Terrestrial Research

Grant/Contract Project Title: High Resolution Observations of the Sun with the 1.6 Off-Axis Telescope in Big Bear: Origins of Space Weather

Funding Agency: U.S. Air Force Office of Scientific Research (AFOSR)

Duration: 12/01/18-11/30/21

PI: Namas Chandra (PI)

Department: Center for Injury, Biomechanics, Materials and Medicine

Grant/Contract Project Title: SDR: Genomic analysis of blast tube induced TBI in mice

Funding Agency: U.S. Department of Veterans Affairs

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

PI: Trevor Tyson (PI)

Department: Physics

Grant/Contract Project Title: Atomic and Electronic Structure Underlying Properties of Inorganic Photorefractive Materials (Task 2)
Funding Agency: U.S. Department of Defense (Department of Air Force)
Duration: 11/01/20-10/31/21

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[In the News...](#)

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

NIST Plans New Drone-Advancing Challenge Competition: Planning for a national challenge competition program to examine and advance a range of drone-centered capabilities and operations is in-the-works at the National Institute of Standards and Technology. The agency intends to negotiate and award a firm-fixed-price purchase order to Kansas State University for the work through “a contract with a size standard of \$27 million in annual receipts,” according to a [special notice](#) published this week. In it, NIST offered interested entities that might wish to design, host and run the challenge until Dec. 7 to express interest in doing so. NIST ultimately aims to work out whether competitive procedures could be used for the acquisition—and if they’re not, the agency estimates it’ll issue an award to the university by Dec. 8. Through its Public Safety Communications Research Division’s Open Innovation Program, NIST steers “[challenge](#)” prize [competitions](#) that bring together a unique array of collaborators from across the planet to solve some inarguably complex problems that involve emerging technologies. It’s launched two prior drone-advancing programs. This initial selection of the University of Kansas to host this specific work follows an original source sought [opportunity](#) NIST released in September. More information is posted on the [NextGov website](#).

Top DoD Challenges on Technological Dominance: Hypersonics, Microelectronics, AI, 5G and Biotechnology: The Defense Department Office of Inspector General announced [its annual report](#) summarizing the biggest management and performance challenges the department faces for the next fiscal year, identifying a total of 10 new and enduring issues, last week. Emerging technologies, managing and securing information systems, and data all featured prominently in the report. The two new technology-oriented management challenges relate to the need for DOD “dominance” in emerging technologies—such as 5G and artificial intelligence—and transforming data into a strategic asset.

DOD needs to be able to push out innovative technologies at a faster pace than it currently does, according to the section on technological dominance.

“The potential of emerging technologies, and the challenges for the DOD, may be reflected in the new ways of warfighting,” the report reads. “Autonomous intelligent machines and applications can rapidly accelerate the speed of decision making and action, improve the DOD’s understanding of the battlespace, and enable new missions not yet conceived.”

The report highlighted issues related to deployment of several major DOD tech priorities to include hypersonics, microelectronics, AI, 5G and biotechnology. For microelectronics and 5G, OIG indicated it planned to conduct further evaluations into DOD activities related to their deployment.

Top DoD Management Challenges are:

1. Maintaining the Advantage While Balancing Great Power Competition and Countering Global Terrorism
2. Building and Sustaining the DoD’s Technological Dominance

3. Strengthening Resiliency to Non-Traditional Threats
4. Assuring Space Dominance, Nuclear Deterrence, and Ballistic Missile Defense
5. Enhancing Cyberspace Operations and Capabilities and Securing the DoD's Information Systems, Network, and Data
6. Transforming Data Into a Strategic Asset
7. Ensuring Health and Safety of Military Personnel, Retirees, and Their Families
8. Strengthening and Securing the DoD Supply Chain and Defense Industrial Base
9. Improving Financial Management and Budgeting
10. Promoting Ethical Conduct and Decision Making

Full report on Fiscal Year 2021 Top DoD Management Challenges is posted on the [DoD Website](#).

National Institutes of Health Initiative for Maximizing Student Development: The goal of the Initiative for Maximizing Student Development (IMSD) program is to develop a diverse pool of scientists earning a Ph.D., who have the skills to successfully transition into careers in the biomedical research workforce. This funding opportunity provides support to eligible, domestic institutions to develop and implement effective, evidence-informed approaches to biomedical graduate training and mentoring that will keep pace with the rapid evolution of the biomedical research enterprise. Proposed research training programs are expected to incorporate didactic, research, mentoring, and career development elements to prepare trainees for careers that will have a significant impact on the health-related research needs of the Nation. A brief about this [RFP](#) is included in the Grant Opportunities section below.

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[Webinar and Events](#)

Event: Office Hour on Transport Phenomena Research on the ISS to Benefit Life on Earth

Sponsor: NSF

When: December 8, 2020, 2020 1.00 PM –2.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301730&org=NSF

Brief Description: NSF is offering an office hour on Tuesday, December 8, 2020 at 1:00pm Eastern time to discuss the FY 2021 solicitation for the [NSF/CASIS Collaboration on Transport Phenomena Research on the International Space Station \(ISS\) to Benefit Life on Earth](#) (NSF 21-525).

Program directors from the NSF Division of Chemical, Bioengineering, Environmental and Transport Systems (CBET) will describe the program and answer questions. The planned agenda is

- Introduction of and key changes in the fiscal year 2021 solicitation
- Feasibility review process and conducting experiments on the ISS
- Flow boiling and condensation experiment capabilities
- General questions & answers

To Join the Webinar: Please [register in advance for the office hour](#).

Event: CyberTraining (NSF-19-524) Webinar

Sponsor: NSF

When: December 8, 2020, 2020 2.00 PM – 3.30 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301654&org=NSF

Brief Description: This program seeks to prepare, nurture, and grow the national scientific research workforce for creating, utilizing, and supporting advanced cyberinfrastructure (CI) to enable and potentially transform fundamental science and engineering research and contribute to the

Nation's overall economic competitiveness and security. The goals of this solicitation are to (i) ensure broad adoption of CI tools, methods, and resources by the research community in order to catalyze major research advances and to enhance researchers' abilities to lead the development of new CI; and (ii) integrate core literacy and discipline-appropriate advanced skills in advanced CI as well as computational and data-driven science and engineering into the Nation's educational curriculum/instructional material spanning undergraduate and graduate courses for advancing fundamental research.

This solicitation calls for innovative, scalable training, education, and curriculum/instructional materials—targeting one or both of the solicitation goals—to address the emerging needs and unresolved bottlenecks in scientific and engineering research workforce development, from the postsecondary level to active researchers.

We will review the CyberTraining solicitation ([NSF-19-524](#)), including all three project classes, and the priorities of the participating divisions. We will also have Q&A.

To Join the Webinar: Webinar Registration

https://nsf.zoomgov.com/webinar/register/WN_04wnUh83T8Sp4TB12WkK_w

Event: Biology Integration Institutes (BII) Webinar

Sponsor: NSF

When: December 8, 2020, 2020 1.00 PM – 2.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301720&org=NSF

Brief Description: A webinar about the Biology Integration Institutes (BII) solicitation ([NSF 20-601](#)) will be held Tuesday, December 8, 2020 at 1 p.m. Eastern.

There will be a presentation followed by a Q&A period.

To Join the Webinar: Please click the link below to join the webinar:

<https://nsf.zoomgov.com/j/1603208549?pwd=S0IDS1pkd2hpZVVJdnVGYVFNdUhYUT09>

Passcode: J%A7NB

Event: DMS Virtual Office Hours

Sponsor: NSF

When: December 15, 2020, 2020 11.00 AM – 12.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=301731&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_0gZjy028QVuuIIhwnolmcA

Event: Hiding In Plain Sight: Recent DoD Changes in Cybersecurity that can cost you Contracts

Sponsor: NJIT Procurement Technical Assistance Center

When: December 16, 2020, 2020 11.00 AM – 12.00 PM

Website: <https://njitptac.ecenterdirect.com/events/1869>

Brief Description: The United States Department of Defense is implementing the Cybersecurity Maturity Model Certification (CMMC) to normalize and standardize cybersecurity preparedness across the federal government's defense industrial base (DIB). Learn how non-compliance with the new regulations by you

or your subcontractors can result in cancelled contracts, lost opportunities and revenue. This webinar will provide insight into the economic impacts of cybersecurity failures, how cybersecurity relates to Section 889 of the 2019 National Defense Authorization Act (NDAA), National Institute of Science and Technology (NIST) 800-171 compliance and the recent DFARS changes. You will gain a better understanding of your firm's needs and where to go for assistance to ensure compliance. This training session is being co-hosted by the Small Business Development Center at The College of New Jersey (SBDC at TCNJ)

To Join the Webinar: Register at the above URL.

Event: Deep Dive Into Deep Tech Incubation Workshop

Sponsor: NSF

When: December 18, 2020 12.00 PM – 1.00 PM

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

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

Deep Tech Venture Capital and Corporate Partnerships

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

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

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[National Science Foundation](#)

Grant Program: Spectrum and Wireless Innovation enabled by Future Technologies (SWIFT)

Agency: National Science Foundation NSF 21-539

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21539/nsf21539.htm>

Brief Description: The National Science Foundation's Directorates for Engineering (ENG), Computer and Information Science and Engineering (CISE), Mathematical & Physical Sciences (MPS), and Geosciences (GEO) are coordinating efforts to identify new concepts and ideas on Spectrum and Wireless Innovation enabled by Future Technologies (SWIFT). A key aspect of the SWIFT program, now in its second year, is its focus on effective spectrum utilization and/or coexistence techniques, especially with passive uses, which have received less attention from researchers. Coexistence is when two or more applications use the same frequency band at the same time and/or at the same location, yet do not adversely affect one another. Coexistence is especially difficult when at least one of the spectrum users is passive, i.e., not transmitting any radio frequency (RF) energy. Examples of coexisting systems may include passive and active systems (e.g., radio astronomy and wireless broadband communication

systems) or two active systems (e.g., weather radar and Wi-Fi). Breakthrough innovations are sought on both the wireless communication hardware and the algorithmic/protocol fronts through synergistic teamwork. The goal of these research projects may be the creation of new technology or significant enhancements to existing wireless infrastructure, with an aim to benefit society by improving spectrum utilization, beyond mere spectrum efficiency. The SWIFT program seeks to fund collaborative team research that transcends the traditional boundaries of individual disciplines.

Awards: Standard Grant; Anticipated Funding Amount: \$12,000,000

Letters of Intent: Not required

Proposal Submission Deadline: March 05, 2021

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

- Alexander Sprintson, telephone: (703) 292-8950, email: asprints@nsf.gov
 - Zhengdao Wang, telephone: (703) 292-7823, email: zwang@nsf.gov
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Grant Program: Mid-scale Research Infrastructure-2 (Mid-scale RI-2)

Agency: National Science Foundation NSF 21-537

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21537/nsf21537.htm>

Brief Description: NSF-supported science and engineering research increasingly relies on cutting-edge infrastructure. With its Major Research Instrumentation (MRI) program and Major Multi-user Research Facility projects (Major Facilities), NSF supports infrastructure projects at the lower and higher ends of infrastructure scales across science and engineering research disciplines. The Mid-scale Research Infrastructure Big Idea is intended to provide NSF with an agile, Foundation-wide process to fund experimental research capabilities in the mid-scale range between the MRI and Major Facilities thresholds.

NSF defines Research Infrastructure (RI) as any combination of facilities, equipment, instrumentation, or computational hardware or software, and the necessary human capital in support of the same. Major facilities and mid-scale projects are subsets of research infrastructure. The NSF Mid-scale Research Infrastructure-2 Program (Mid-scale RI-2) supports the implementation of unique and compelling RI projects. Mid-scale RI-2 projects may include any combination of equipment, instrumentation, cyberinfrastructure, broadly used large-scale data sets, and the commissioning and/or personnel needed to successfully complete the project. Mid-scale RI-2 projects should fill a research community-defined scientific need, or address an identified national research priority, that enables current and next-generation U.S. researchers and a diverse STEM workforce to remain competitive in a global research environment. The total cost for Mid-scale RI-2 projects ranges from \$20 million to below the threshold for a Major Facilities Project, currently \$100 million. Mid-scale RI-2 projects will directly enable advances in any of the research domains supported by NSF, including STEM education research. Projects may also include upgrades to existing research infrastructure.

The Mid-scale RI-2 Program emphasizes projects that have strong scientific merit, respond to an identified need of the research community, demonstrate technical and managerial readiness for implementation, include a well-developed plan for student training *in the design and implementation of mid-scale research infrastructure*, and involve a diverse workforce in mid-scale facility development, and/or associated data management. Training of students in design and implementation, not just in scientific exploitation of the infrastructure, is essential.

Please consult NSF 19-068 [Major Facilities Guide](#) (MFG) for definitions of terms used in this solicitation, such as the Project Execution Plan (PEP). Section 5 of the MFG provides guidance specific to Mid-Scale Research Infrastructure Projects, including guidance on the PEP.

Mid-scale RI-2 will consider only the implementation (typically construction or acquisition) stage of a project, including a limited degree of final development or necessary production design immediately

preparatory to implementation. It is thus intended that Mid-scale RI-2 will support projects in high states of project and technical readiness for implementation, i.e., those that have already matured through previous developmental investments. Accordingly, Mid-scale RI-2 does not support pre-implementation (early-stage design or development) activities. Mid-scale RI-2 also does not support post-implementation research, operations or maintenance, the anticipated source(s) of which are expected to be discussed in the proposal.

Awards: Cooperative Agreement; Anticipated Funding Amount: \$150,000,000 to \$200,000,000
Individual awards from \$20 million up to but not including \$100 million are anticipated for advanced design and implementation, pending availability of funds. Duration of the award may be up to five (5) years.

Letters of Intent: Submission of Letters of Intent is required. Please see the full text of this solicitation for further information. Due Date: February 03, 2021

Proposal Submission Deadline:

- **Preliminary Proposal Due Date(s) (required)** (due by 5 p.m. submitter's local time):
March 05, 2021
- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):
September 20, 2021

Contacts: Brian Midson, GEO, telephone: (703) 292-8145, email: bmidson@nsf.gov

- Allena K. Opper, telephone: (703) 292-8958, email: aopper@nsf.gov
- William L. Miller, CISE, telephone: (703) 292-7886, email: wlmiller@nsf.gov

Grant Program: National Science Foundation Research Traineeship (NRT) Program

Agency: National Science Foundation NSF 21-536

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21536/nsf21536.htm>

Brief Description: The NSF Research Traineeship (NRT) program seeks proposals that explore ways for graduate students in research-based master's and doctoral degree programs to develop the skills, knowledge, and competencies needed to pursue a range of STEM careers. The program is dedicated to effective training of STEM graduate students in high priority interdisciplinary or convergent research areas, through a comprehensive traineeship model that is innovative, evidence-based, and aligned with changing workforce and research needs. Proposals are requested that address any interdisciplinary or convergent research theme of national priority, as noted above.

The NRT program addresses workforce development, emphasizing broad participation, and institutional capacity building needs in graduate education. The program encourages proposals that involve strategic collaborations with the private sector, non-governmental organizations (NGOs), government agencies, national laboratories, field stations, teaching and learning centers, informal science centers, and academic partners. NRT especially welcomes proposals that include partnership with NSF Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES) and leverage INCLUDES project efforts to develop STEM talent from all sectors and groups in our society (https://www.nsf.gov/news/special_reports/big_ideas/includes.jsp). Collaborations between NRT proposals and existing NSF INCLUDES projects should strengthen both NRT and INCLUDES projects.

Awards: Standard Grant; Anticipated Funding Amount: \$55,000,000

NRT Track 1 Awards (14-16 awards each year) are expected to be up to five (5) years in duration with a total budget up to \$3,000,000.

NRT Track 2 Awards (4-6 awards each year) are expected to be up to five (5) years in duration with a total budget up to \$2,000,000.

Limit on Number of Proposals per Organization: 2

An eligible organization may participate in only two (2) proposals per NRT competition as lead or collaborative non-lead. All Track 1 and/or Track 2 NRT proposals will be counted toward this total limit of two proposals per organization.

Participation includes serving as a lead organization or non-lead organization on any proposal.

Organizations participating only as evaluators on projects are excluded from this limitation. Proposals that exceed the organizational eligibility limit will be returned without review regardless of whether the organization on such a proposal serves as lead or non-lead collaborative organization. Only US IHEs are eligible to submit as a lead or non-lead organization. Potential PIs are advised to contact their institutional office of research regarding processes used to select proposals for submission.

Internal Review and Selection on Limit on Institutional Proposals: If planning to submit a proposal, please submit an internal Letter of Intent with the following sections to your respective deans by January 5, 2021 for February deadline. Deans should forward their recommendations to the Office Research (at dhawan@njit.edu) by January 12 for institutional review. The institutional decision will be provided by January 18. Sections of the internal Letter of Intent (no more than 5 pages) should include:

1. Title, PI and Co-PIs with department affiliations; date of submission
2. Project Description (Summary)
3. Intellectual Merit
4. Broader Impact
5. Key Investigators
6. Budget Summary
7. institutional and Other Resources Needed

Letters of Intent: Not required

Proposal Submission Deadline: February 25, 2021; September 06, 2021

Contacts: Daniel Denecke, telephone: (703) 292-8072, email: ddenecke@nsf.gov

- Vinod K. Lohani, telephone: (703) 292-2330, email: vlohani@nsf.gov
 - John Weishampel, telephone: (703) 292-2162, email: jweisham@nsf.gov
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Grant Program: Smart and Connected Communities (S&CC)

Agency: National Science Foundation NSF 21-535

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21535/nsf21535.htm>

Brief Description: The goal of the NSF Smart and Connected Communities (S&CC) program solicitation is to accelerate the creation of the scientific and engineering foundations that will enable smart and connected communities to bring about new levels of economic opportunity and growth, safety and security, health and wellness, accessibility and inclusivity, and overall quality of life.

For the purposes of this solicitation, communities are defined as having geographically-delineated boundaries—such as towns, cities, counties, neighborhoods, community districts, rural areas, and tribal regions—consisting of various populations, with the structure and ability to engage in meaningful ways with proposed research activities. A “smart and connected community” is, in turn, defined as a community that synergistically integrates intelligent technologies with the natural and built environments, including infrastructure, to improve the social, economic, and environmental well-being of those who live, work, learn, or travel within it.

The S&CC program encourages researchers to work with community stakeholders to identify and define challenges they are facing, enabling those challenges to motivate use-inspired research questions. For this solicitation, community stakeholders may include some or all of the following: residents, neighborhood or community groups, nonprofit or philanthropic organizations, businesses, as well as municipal organizations such as libraries, museums, educational institutions, public works departments, and health

and social services agencies. **The S&CC program supports integrative research that addresses fundamental technological and social science dimensions of smart and connected communities and pilots solutions together with communities.** Importantly, the program is interested in projects that consider the sustainability of the research outcomes beyond the life of the project, including the scalability and transferability of the proposed solutions.

Awards: Standard Grant or Continuing Grant or Cooperative Agreement; Anticipated Funding Amount: \$23,500,000

This S&CC solicitation will support research projects in the following categories:

- **S&CC Integrative Research Grants (SCC-IRG) Tracks 1 and 2.** Awards in this category will support fundamental integrative research that addresses technological and social science dimensions of smart and connected communities and pilots solutions together with communities. Track 1 proposals may request budgets ranging between \$1,500,001 and \$2,500,000, with durations of up to four years. Track 2 proposals may request budgets up to \$1,500,000, with durations of up to three years. Note that NSF is working with the Japan Science and Technology Agency (JST) to support joint US-Japan IRG Track 2 proposals (SCC-IRG JST) that address topics related to recovery from COVID-19 and future resilience planning related to pandemics and disasters, including how the proposed research will enable community adjustment to life in the new normal of a post-COVID-19 society.
- **S&CC Planning Grants (SCC-PG).** Awards in this category are for capacity building to prepare project teams to propose future well-developed SCC-IRG proposals. Each of these awards will provide support for a period of one year and may be requested at a level not to exceed \$150,000 for the total budget.
- **S&CC Virtual Organization (SCC-VO).** Proposals are being sought to establish a Virtual Organization that will: (i) facilitate and foster interaction and exchanges among S&CC PIs and their teams, including community partners; (ii) enable sharing of artifacts and knowledge generated by S&CC projects with the broader scientific and non-academic communities (e.g., local community stakeholders as described in this solicitation); and (iii) facilitate and foster collaboration and information exchange between S&CC researchers, community stakeholders, and others. No more than one S&CC-VO proposal will be funded. Funding of up to \$250,000 per year for up to three years may be requested.

Letters of Intent: Not required

Proposal Submission Deadline: February 24, 2021

Contacts: David Corman, Program Director, CISE/CNS, telephone: (703) 292-8754, email: dcorman@nsf.gov

- Linda Bushnell, Program Director, CISE/CNS, telephone: (703) 292-8950, email: lbushnel@nsf.gov
- Sandip Roy, Program Director, CISE/CNS, telephone: (703) 292-8950, email: saroy@nsf.gov

Grant Program: Understanding the Rules of Life: Microbiome Interactions and Mechanisms (URoL:MIM)

Agency: National Science Foundation NSF 21-534

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21534/nsf21534.htm>

Brief Description: *Understanding the Rules of Life (URoL): Predicting Phenotype* is one of NSF's 10 Big Ideas (https://www.nsf.gov/news/special_reports/big_ideas) and is focused on predicting the set of observable characteristics (phenotypes) based on the genetic makeup of the individual and the nature of its environment. The Understanding the Rules of Life: Microbiome Interactions and Mechanisms (URoL:MIM) program is an integrative collaboration across several Directorates and Offices within the

National Science Foundation. The objective of URoL:MIM is to understand interactions and mechanisms that govern the structure and function of microbiomes. By integrating the wide range of accumulated data and information on microbiome structure and function, new causal models of interactions and interdependencies across scales and systems can be generated. Elucidating these relationships will inform our understanding of the Rules of Life – the theoretical constructs and models that explain and predict the emergent characteristics of living systems, as seen in the robustness, resilience, and adaptability of the individual organisms, populations, and communities.

We define a microbiome as a collection of different microbes in a specific habitat. This may include non-host-associated microbiomes and host-associated microbiomes, such as those in humans and other organisms, where i) the microbiome impacts host physiology, behavior, development, and fitness; ii) the host influences the metabolic activity, dynamics and evolution of the microbiome, and iii) the environment (biological, chemical, physical, and social) influences and is influenced by both the host and the microbiome.

The URoL:MIM program invites integrated, interdisciplinary proposals that create new knowledge in multiple disciplines to develop causal frameworks with well-designed scientific and/or computational approaches to test hypotheses about the relationships within the microbiome, and among the microbiome, the host, and the environment. Projects may develop new computational, mathematical, or experimental tools, and models, to: i) explain function and interactions in natural, experimental, and model microbiomes; ii) elucidate the chemical and molecular mechanisms that underlie communication between the host and the microbiome and among the members of the microbiome; and/or iii) comparatively analyze characteristics of microbiomes to discover emergent properties that provide insight into the behavior of living systems.

Awards: Standard Grant or Continuing Grant; Anticipated Funding Amount: \$12,000,000

Letters of Intent: Not required

Proposal Submission Deadline: February 23, 2021

Contacts: Catalina Achim, MPS, telephone: (703) 292-2048, email: microbiome@nsf.gov

- Robert Mayes, EHR, telephone: (703) 292-7267, email: microbiome@nsf.gov
- Mamta Rawat, BIO, telephone: (703) 292-7265, email: microbiome@nsf.gov

Grant Program: Computer and Information Science and Engineering Minority-Serving Institutions Research Expansion Program (CISE-MSI Program)

Agency: National Science Foundation NSF 21-533

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21533/nsf21533.htm>

Brief Description: With this solicitation, the National Science Foundation's (NSF) Directorate for Computer and Information Science and Engineering (CISE) is launching a new, focused program to support research expansion for Minority-Serving Institutions (MSIs). The goal of the CISE-MSI program is to broaden participation by increasing the number of CISE-funded research projects from MSIs. MSIs are central to inclusive excellence: they foster innovation, cultivate current and future undergraduate and graduate computer and information science and engineering talent, and bolster long-term U.S. competitiveness.

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

Letters of Intent: Not required

Proposal Submission Deadline: April 15, 2021

Contacts: Fay Cobb Payton, Program Director, CISE/CNS, telephone: (703) 292-7939, email: fpayton@nsf.gov

- Almadena Y. Chtchelkanova, Program Director, CISE/CCF, telephone: (703) 292-8910, email: achtchel@nsf.gov

- Daniel R. Cosley, Program Director, CISE/IIS, telephone: (703) 292-8832, email: dcosley@nsf.gov
-

Grant Program: Reproducible Cells and Organoids via Directed-Differentiation Encoding (RECODE)

Agency: National Science Foundation NSF 21-532

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21532/nsf21532.htm>

Brief Description: The National Science Foundation (NSF) Divisions of Chemical, Bioengineering, Environmental and Transport Systems (CBET), Integrative and Organismal Systems (IOS), Molecular and Cellular Biosciences (MCB), and Civil, Mechanical, and Manufacturing Innovation (CMMI) seek proposals that elucidate mechanisms of, and develop strategies to, direct the differentiation of undifferentiated cells into mature, functional cells or organoids. Projects responsive to this solicitation must aim to establish a robustly validated and reproducible set of differentiation design rules, mechanistic models, real-time sensing, control, and quality assurance methods, and integrate them into a workable differentiation strategy. They must deepen our fundamental understanding of how cells develop and differentiate, providing insights into mechanisms, molecular machinery, dynamics, and cell-cell and cell-extracellular matrix (ECM) interactions, and use this understanding to manipulate cells purposefully. Investigators can choose any undifferentiated cell type from any animal species, including those that may be considered non-model organisms, as a starting point and choose any appropriate functional product (cell, organoid, etc.) with real-world relevance.

The process of differentiation involves a multiplex combination of signaling molecules, receptors, promoters, markers, and chemical and mechanical regulators that dynamically interact to direct cell development and behavior. While individual inducers of native differentiation have been identified and employed to create specialized cell types, we generally lack fundamental understanding of the roles of biochemical and environmental regulators necessary for synthetic induction of differentiation along a predetermined path and the ability to actively monitor and manipulate that path dynamically. Such control of differentiation will be valuable to answer mechanistic questions about basic biological processes that govern physiological function of specific cells, tissues, and organs, as well as mechanisms for processes involved in symbiosis and disease, and immunological responses to infection. The control of differentiation will also enable the realization of enhanced biomanufacturing, leading to novel products, biomaterials, and significant improvements in individualized medicine, environmental control and monitoring, adaptive sensing, as well as the scalable and reproducible application of 3D organoids in drug testing.

Awards: Standard Grant or Continuing Grant; Anticipated Funding Amount: \$10,600,000

Letters of Intent: Not required; Please see below.

Proposal Submission Deadline:

- **Preliminary Proposal Due Date(s) (*required*)** (due by 5 p.m. submitter's local time):
February 18, 2021
- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):
May 18, 2021

Contacts: Steven W. Peretti, ENG/CBET, telephone: (703) 292-7029, email: speretti@nsf.gov

- Aleksandr L. Simonian, ENG/CBET, telephone: (703) 292-2191, email: asimonia@nsf.gov
 - Stephanie George, ENG/CBET, telephone: (703) 292-7825, email: stgeorge@nsf.gov
-

Grant Program: Designing Synthetic Cells Beyond the Bounds of Evolution (Designer Cells)

Agency: National Science Foundation NSF 21-531

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21531/nsf21531.htm>

Brief Description: Because of recent technological advances in synthetic biology and bioengineering, researchers are now able to tailor cells and cell-like systems for a variety of basic and applied research purposes. The goal of this solicitation is to support research that (1) develops cell-like systems to identify the minimal requirements for the processes of life, (2) designs synthetically-modified cells to address fundamental questions in the evolution of life or to explore biological diversity beyond that which currently exists in nature, and (3) leverages basic research in cell design to build novel synthetic cell-like systems and cells for innovative biotechnology applications.

Highest funding priority is given to proposals that have outstanding intellectual merit and broader impacts, while proposals with weaknesses in either category (or those that are perceived as likely to have an incremental impact) will not be competitive. Proposals submitted to this solicitation should address social, ethical, and safety issues associated with designing and building synthetically modified cells as an integrated component of the project.

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

Letters of Intent: Not required

Proposal Submission Deadline: February 16, 2021; February 01, 2022

Contacts: Anthony G. Garza, telephone: (703) 292-8440, email: aggarza@nsf.gov

- Steven W. Peretti, telephone: (703) 292-7029, email: speretti@nsf.gov
 - Senay Agca, telephone: (703) 292-2459, email: sagca@nsf.gov
-

Grant Program: Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science (SCH)

Agency: National Science Foundation NSF 21-530

RFP Website: <https://www.nsf.gov/pubs/2021/nsf21530/nsf21530.htm>

Brief Description: The purpose of this interagency program solicitation is to support the development of transformative high-risk, high-reward advances in computer and information science, engineering, mathematics, statistics, behavioral and/or cognitive research to address pressing questions in the biomedical and public health communities. Transformations hinge on scientific and engineering innovations by interdisciplinary teams that develop novel methods to intuitively and intelligently collect, sense, connect, analyze and interpret data from individuals, devices and systems to enable discovery and optimize health. Solutions to these complex biomedical or public health problems demand the formation of interdisciplinary teams that are ready to address these issues, while advancing fundamental science and engineering.

Awards: Standard Grant or Continuing Grant; Anticipated Funding Amount: \$16,000,000 to \$20,000,000

Projects will be funded for up to four years for a total of \$1,200,000 (\$300,000 per year).

Letters of Intent: Not required

Proposal Submission Deadline: February 16, 2021

Contacts: Wendy Nilsen, Directorate for Computer and Information Science and Engineering, Division of Information and Intelligent Systems, telephone: (703) 292-2568, email: wnilsen@nsf.gov

- Scott T. Acton, Directorate for Computer and Information Science and Engineering, Division of Computing and Communication Foundations, telephone: (703) 292-8910, email: sacton@nsf.gov
 - Balakrishnan Prabhakaran, Directorate for Computer and Information Science and Engineering, Division of Information and Intelligent Systems, telephone: (703) 292-4847, email: bprabhak@nsf.gov
-

Grant Program: Planning Grants for Engineering Research Centers (ERC)**Agency: National Science Foundation NSF 21-526****RFP Website:**https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5521&org=NSF&sel_org=NSF&from=fund

Brief Description: The ERC program is placing greater emphasis on high-risk/high-payoff research, larger societal impact, convergent research approaches, engagement of stakeholder communities, and adoption of team science in team formation, in response to the 2017 NASEM study recommendation. The ERC program intends to support planning activities leading to convergent research team formation and capacity-building within the engineering community. This planning grant solicitation is designed to foster and facilitate the engineering community's thinking about how to form convergent research collaborations. To participate in a forthcoming ERC competition, one is not required to submit a planning grant proposal nor to receive a planning grant.

Awards: Standard Grants; Anticipated Funding Amount: \$2,000,000**Letters of Intent:** Not required**Proposal Submission Deadline:** February 16, 2021**Contacts:** Sarit B. Bhaduri, telephone: (703) 292-2975, email: sbhaduri@nsf.gov

- Sandra Cruz-Pol, telephone: (703) 292-2928, email: scruzpol@nsf.gov
 - Dana L. Denick, telephone: (703) 292-8866, email: ddenick@nsf.gov
-

Grant Program: Campus Cyberinfrastructure (CC*)**Agency: National Science Foundation NSF 21-528****RFP Website:** <https://www.nsf.gov/pubs/2021/nsf21528/nsf21528.htm>

Brief Description: The Campus Cyberinfrastructure (CC*) program invests in coordinated campus-level networking and cyberinfrastructure improvements, innovation, integration, and engineering for science applications and distributed research projects. Learning and workforce development (LWD) in cyberinfrastructure is explicitly addressed in the program. Science-driven requirements are the primary motivation for any proposed activity.

In recent years, NSF has addressed the growing requirements of the NSF community, and opportunities to innovate, in networking infrastructure through the CC* program, which invests in innovative, coordinated, and secure campus, multi-campus and multi-institution CI components. The Campus Cyberinfrastructure-Network Infrastructure and Engineering (CC-NIE) program in 2012 and 2013 focused on campus networking upgrades and re-architecting, and innovative development and integration of new networking capabilities in support of driving scientific application requirements. Subsequent years saw the program expand beyond data networking to address a broader set of CI needs at the campus level, including computing, storage, multi-institution integrated CI, and learning and workforce development. The CC* solicitation invests in coordinated campus-level networking and cyberinfrastructure improvements, innovation, integration, and engineering for science applications and distributed research projects. Science-driven requirements are the primary motivation for any proposed activity.

Awards: Standard Grant or Continuing Grant; Anticipated Funding Amount: \$13,000,000 to \$15,000,000

Each program area will support awards pursuant to the following budget and duration:

1. Data-Driven Networking Infrastructure for the Campus and Researcher awards will be supported at up to \$500,000 total for up to 2 years;
2. Regional Connectivity for Small Institutions of Higher Education awards will be supported at up to \$1,000,000 total for up to 2 years;

3. Network Integration and Applied Innovation awards will be supported at up to \$1,000,000 total for up to 2 years [in some cases these awards are limited to \$500,000 total—see program area (3) in Section II. Program Description];
4. Campus Computing and the Computing Continuum awards will be supported at up to \$400,000 total for up to 2 years; and
5. Planning Grants and CI-Research Alignment awards will be supported for up to \$200,000 total for up to two years [in some cases, these awards are limited to \$100,000 total—see program area (5) in Section II. Program Description].

Letters of Intent: Not required

Proposal Submission Deadline: March 01, 2021; October 11, 2021

Contacts: Kevin L. Thompson, Program Director, CISE/OAC, telephone: (703) 292-4220, email: kthompso@nsf.gov

- Deepankar (Deep) Medhi, Program Director, CISE/CNS, telephone: (703) 292-8950, email: dmedhi@nsf.gov

Grant Program: Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems (ECO-CBET)

Agency: National Science Foundation NSF 21-527

RFP Website:

https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505748&org=NSF&sel_org=NSF&from=fund

Brief Description: Creating effective solutions to our most pressing environmental and sustainability challenges requires imaginative thinking - the kind that evolves when researchers from disparate fields, expertise, or perspectives fully immerse themselves in work toward a common goal. The National Academies of Sciences, Engineering and Medicine (NASEM), in their report "[Environmental Engineering for the 21st Century: Addressing Grand Challenges](#)," identified five critical challenges we must address as a society:

- Sustainably supply food, water, and energy
- Curb climate change and adapt to its impacts
- Design a future without pollution and waste
- Create efficient, healthy, and resilient cities
- Foster informed decisions and actions

Accordingly, the Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems (ECO-CBET) solicitation will support fundamental research activities that confront vexing environmental engineering and sustainability problems by developing foundational knowledge underlying processes and mechanisms such that the design of innovative new materials, processes, and systems is possible. Projects should be compelling and reflect sustained, coordinated efforts from highly interdisciplinary research teams. A key objective of the solicitation is to encourage dialogue and tightly integrated collaborations wherein the chemical process systems, transport phenomena, and bioengineering communities engage with environmental engineering and sustainability experts to spark innovation and arrive at unanticipated solutions. Furthermore, training the future workforce to successfully engage in discipline-transcending research will support continued innovation toward surmounting the complex environmental and sustainability challenges facing our global community.

Process science and engineering, in the context of this solicitation, is broadly defined to include all programmatic interests of the National Science Foundation (NSF) Directorate for Engineering's (ENG) Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET).

Awards: Standard Grants; Anticipated Funding Amount: TBA; Awards are expected to range from \$1,500,000 to \$1,700,000 over four years.

Letters of Intent: Please see below.

Proposal Submission Deadline:

Preliminary Proposal Deadline Date: February 11, 2021

Full Proposal Deadline Date: May 7, 2021

Contacts: Christina Payne eco-cbet@nsf.gov (703) 292-2895

Bruce K. Hamilton eco-cbet@nsf.gov (703)292-7066

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[National Institutes of Health](#)

Grant Program: Initiative for Maximizing Student Development (IMSD) (T32 - Clinical Trial Not Allowed)

Agency: National Institutes of Health PAR-21-025

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-21-025.html>

Brief Description: The Overarching Objective of this Graduate Research Training Initiative for Student Enhancement program is to develop a diverse pool of well-trained Ph.D. 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 IMSD program will support trainees earning a Ph.D. at research-intensive institutions.

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

Letter of Intent: Not Applicable

Proposal Submission Deadline: February 26, 2021; January 28, 2022; January 30, 2023, by 5:00 PM local time of applicant organization. All [types of applications](#) allowed for this funding opportunity announcement are due on these dates.

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

Contact: Sydella Blatch, Ph.D., National Institute of General Medical Sciences, Email: sydella.blatch@nih.gov; Patrick H. Brown, Ph.D., National Institute of General Medical Sciences, Email: patrick.brown@nih.gov

Grant Program: Graduate Research Training Initiative for Student Enhancement (G-RISE) (T32 - Clinical Trial Not Allowed)

Agency: National Institutes of Health PAR-21-026

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-21-026.html>

Brief Description: The National Institutes of Health (NIH) recognizes the need to diversify the scientific workforce by enhancing the participation of individuals from groups identified as [underrepresented](#) in the biomedical, clinical, behavioral and social sciences (collectively termed "biomedical") research workforce. Research shows that diverse teams working together and capitalizing on innovative ideas and distinct perspectives outperform homogenous teams. Scientists and trainees from diverse backgrounds and life experiences bring different perspectives, creativity, and individual interests to address complex scientific problems. There are many benefits that flow from a diverse NIH-supported scientific workforce, including fostering scientific innovation, enhancing global competitiveness, contributing to robust learning environments, improving the quality of research, enhancing public trust, and increasing the likelihood that health disparities and the needs of underserved populations are addressed in biomedical research.

The Overarching Objective of this Graduate Research Training Initiative for Student Enhancement program is to develop a diverse pool of well-trained Ph.D. 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).

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

Letter of Intent: Not Applicable

Proposal Submission Deadline: February 26, 2021; January 28, 2022; January 30, 2023, by 5:00 PM local time of applicant organization. All [types of applications](#) allowed for this funding opportunity announcement are due on these dates.

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

Contact: Sydella Blatch, Ph.D., National Institute of General Medical Sciences, Email: sydella.blatch@nih.gov; Patrick H. Brown, Ph.D., National Institute of General Medical Sciences, Email: patrick.brown@nih.gov

Grant Program: Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R21 Clinical Trial Not Allowed)

Agency: National Institutes of Health RFA-CA-21-003

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-CA-21-003.html>

Companion Funding Opportunity:

[RFA-CA-21-004](#) - Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R33 Clinical Trial Not Allowed)

[RFA-CA-21-005](#) - Innovative Biospecimen Science Technologies for Basic and Clinical Cancer Research (R21 Clinical Trial Not Allowed)

[RFA-CA-21-006](#) - Advanced Development and Validation of Emerging Biospecimen Science Technologies for Basic and Clinical Cancer Research (R33 Clinical Trial Not Allowed)

Brief Description: This Funding Opportunity Announcement (FOA) solicits grant applications proposing exploratory research projects focused on the inception and early-stage development of highly innovative, molecular and/or cellular analysis technologies with transformative potential. *The emphasis of this FOA is on supporting the development of novel capabilities involving a high degree of technical innovation for targeting, probing, or assessing molecular and cellular features of cancer biology.* Well-suited applications must offer the potential to accelerate and/or enhance research in the areas of cancer biology, early detection, and screening, clinical diagnosis, treatment, control, epidemiology, and/or cancer health disparities. Technologies proposed for development may be intended to have widespread applicability but must focus on improving molecular and/or cellular characterizations of cancer.

Applications involving an existing technology not yet demonstrated for the proposed cancer-relevant application(s) are also within the scope of this FOA but must involve additional technical modifications and development to allow for the proposed cancer-relevant context of use or some significant question of feasibility exists for achieving the proposed aims. If the research focus for the application involves an existing technology, a clear description of the feasibility risk justifying the use of the R21 mechanism must be included in the application. Applicants are encouraged to reach out to the Scientific/Research Contact below with any questions.

The current issuance of the IMAT Program consists of four separate FOAs that cover the following two areas:

- **Molecular and Cellular Analysis Technology Development for Cancer Research** is intended to support the development of technologies that are novel and potentially transformative to the molecular and cellular analysis of cancer, which may, in turn, accelerate basic or clinical cancer research. Applications must offer novel measurement, probing, or targeting of cancer-relevant targets at the molecular or cellular level.
 - RFA-CA-21-003 (this FOA, R21): Supports an early-stage feasibility study (inception through preliminary development) to demonstrate the core functional capabilities of the proposed technology.

- [RFA-CA-21-004](#) (R33): Assumes completion of the initial phase of development and supports the advanced development and robust validation of the technology.
- **Cancer-relevant Biospecimen Science Technologies** is centered on the development and validation of novel technologies to improve or assess the quality of cancer-relevant biospecimens for research or clinical care. Applications must offer novel approaches for procurement, preservation, and/or isolation of proteins, DNA, RNA, and other small molecules from biospecimens or otherwise assess their biological integrity. The emphasis is on reducing the impact of pre-analytical variations in the collection, processing, handling, and preservation of cancer-relevant biospecimens or their derivatives to improve their quality and utility for cancer research or clinical care.
 - [RFA-CA-21-005](#) (R21): Supports an early-stage feasibility study (inception through preliminary development) to demonstrate the core functional capabilities of the proposed technology.
 - [RFA-CA-21-006](#) (R33): Assumes completion of the initial phase of development and supports the advanced development and robust validation of the technology.

Awards: Direct costs are limited to \$400,000 over a 3-year period, with no more than \$200,000 in direct costs allowed in any single year.

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

Proposal Submission Deadline: February 22, 2021; May 27, 2021; September 29, 2021

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

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

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

Contact: Tony Dickherber, Ph.D., National Cancer Institute (NCI), Telephone: 301-547-9980
Email: dickherberaj@mail.nih.gov

Grant Program: Outstanding New Environmental Scientist (ONES) Award (R01 Clinical Trial Optional)

Agency: National Institutes of Health [RFA-ES-21-001](#)

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

Brief Description: An essential element of the mission of the National Institute of Environmental Health Sciences (NIEHS) is the support and career promotion of the next generation of exceptionally talented and creative new scientists who will further the understanding of the impact of environmental exposures on human health. The NIEHS supports training and fellowship programs for pre and postdoctoral training, and mentored career development awards for faculty in the early stages of their career development. In 2006, NIEHS initiated a program of research grants for Early Stage Investigators, The Outstanding New Environmental Scientist (ONES) Award, that is designed to identify the best new biomedical investigators across the spectrum of science supported by the NIEHS (i.e., including basic mechanistic, clinical and population based researchers) and facilitate their establishing a vibrant, independent research program in the environmental health sciences.

The ONES program is designed to identify outstanding scientists at the formative stages of their career and assist them in launching an innovative research program with a defined impact in the environmental health sciences. These R01 research grants are targeted for researchers who are defined by the NIH as [Early Stage Investigators](#).

Applications submitted in response to this FOA must have a research focus on exposure-health related responses from environmental agents within the mission interest of the NIEHS. The Strategic Plan

emphasizes that environmental exposures within the primary mission interest of NIEHS may both manifest effects through direct toxicities and as an element in combined exposures in the totality of all types of human exposure experiences throughout the lifespan, the exposome.

Awards: The budget for direct costs is composed of two elements - research direct costs and career enhancement costs. For most applications, the budget for research direct costs should be limited to \$250,000 per year. With strong justification, research projects which have inherently higher costs may request direct costs of up to \$400,000 per year. Career enhancement direct costs are limited to \$250,000 direct costs, which can be distributed over the 5-year award period. Note: the total direct cost budget (research plus career enhancement) may not exceed \$475,000 in any year of the award.

Letter of Intent: 30 days prior to the application due date.

Proposal Submission Deadline: February 26, 2021; February 24, 2022; February 24, 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: Carol A. Shreffler, Ph.D., National Institute of Environmental Health Sciences (NIEHS), Telephone: 984-287-3322, Email: shreffl1@niehs.nih.gov

Grant Program: Analytical Validation of a Candidate Biomarker for Neurological or Neuromuscular Disorders (U44 Clinical Trial Optional)

Agency: National Institutes of Health PAR-21-057

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-21-057.html>

Companion Funding Opportunity

PAR-21-056 - Analytical Validation of a Candidate Biomarker for Neurological or Neuromuscular Disorders (U01 Clinical Trial Optional)

PAR-21-058 - Clinical Validation of a Candidate Biomarker for Neurological or Neuromuscular Disorders (U01 Clinical Trial Optional)

PAR-21-059 - Clinical Validation of a Candidate Biomarker for Neurological or Neuromuscular Disorders (U44 Clinical Trial Optional)

Brief Description: This PAR is intended to address the gap in biomarker validation by encouraging rigorous **analytical validation** of the biomarker detection method. **Analytical Validation** is defined as the process of establishing that the performance characteristics of the measurement(s) are acceptable in terms of the sensitivity, specificity, accuracy, precision, and other relevant performance characteristics using a specified technical protocol (which may include sample collection and standardization procedures). The level of analytical rigor that is necessary depends upon the characteristics of the biomarker, the detection technology, and the intended category(ies) of biomarker (diagnostic, prognostic, predictive, pharmacodynamic/response, monitoring, safety, or susceptibility/risk) within the proposed context of use(s). Analytical validation establishes the measurement's technical performance so that final clinical validation can be established. Applicants with a detection method that has already been analytically validated for its intended Context of Use may apply directly to the companion PAR, Clinical Validation of a Candidate Biomarker for Neurological or Neuromuscular Disorders (U01 - Clinical Trial Optional) which addresses retrospective and/or prospective clinical validation of candidate biomarkers for use in clinical trials and/or clinical practice.

Applications to this PAR must propose to conduct analytical validation of a biomarker or biomarker signature that already has a well-defined proof of concept and biological rationale. Premise and proof of concept must include evidence that the biomarker/biomarker signature has been tested in an appropriate clinical population, using either prospective or retrospective data or samples and shows

sufficient sensitivity and specificity to warrant additional investment. In addition, applications to this PAR must include evidence that the detection method for the biomarker has been developed and subjected to initial evaluation of precision and analytical sensitivity. The application should clearly describe how the proposed study plans to optimize and standardize the detection method, as well as clearly define and rigorously test the analytic and pre-analytic variables to ensure broad and reliable clinical use across multiple sites.

Awards: Budgets up to \$700,000 total costs per year for Phase I and up to \$1,500,000 total costs per year for Phase II may be requested.

Letter of Intent: 30 days prior to the application due date.

Proposal Submission Deadline: February 22, 2021, June 22, 2021, February 22, 2022, June 22, 2022, February 22, 2023, June 22, 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: Carol Taylor-Burds, PhD, National Institute of Neurological Disorders and Stroke (NINDS)

Telephone: 301-496-1779, Email: carol.taylor-burds@nih.gov

Grant Program: Stephen I. Katz Early Stage Investigator Research Project Grant (R01 Clinical Trial Not Allowed)

Agency: National Institutes of Health PAR-21-038

Companion Funding Opportunity: [PAR-21-039](#) - Stephen I. Katz Early Stage Investigator Research Project Grant (R01 Basic Experimental Studies with Humans Required)

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-21-038.html>

Brief Description: The purpose of this Funding Opportunity Announcement is to provide a new pathway for Early Stage Investigators (ESIs) who wish to propose research projects in a new direction for which preliminary data do not exist. The Stephen I. Katz Early Stage Investigator Research Project Grant, named in honor of the late National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) Director, Stephen I. Katz, M.D., Ph.D., is open to a broad range of scientific research relevant to the mission of the participating NIH Institutes and Centers (ICs). Proposed projects must represent a change in research direction for the ESI and should be innovative and unique. A distinct feature for this FOA is that applications must not include preliminary data. This FOA is appropriate for ESIs who wish to initiate a research project in an area different from their previous research focus and/or training experience, and therefore have not produced preliminary data. PD/PI's who wish to proposed research projects consistent with their past work or training and/or supported by preliminary data, should apply to the [Parent R01](#) or other FOAs allowing for preliminary data.

Proposed research projects can rely on the PD/PI's prior work and expertise as its foundation, but must not be an incremental advancement, expansion, or extension of a previous research effort. The change in research direction could involve, for example, a new approach, methodology, technique, discipline, therapeutic target, and/or new paradigm, different from the ESI's previous research efforts. Importantly, the proposed direction must represent a change in research direction for the PD/PI. Because a change in research direction is heavily dependent upon the area of investigation, potential applicants are strongly encouraged to contact a program director to discuss their proposed project. If the application proposes multiple Principal Investigators (MPIs), all PD/PIs must be ESIs and the research direction must be a change in research direction for all MPIs. **Initiative for Maximizing Student Development (IMSD) (T32**

For this FOA, applications including preliminary data will be considered noncompliant with the FOA instructions and will be withdrawn. Preliminary data are defined as data not yet published. Existence of preliminary data is an indication that the proposed project has advanced beyond the scope defined by this program and makes the application unsuitable for this funding opportunity. Publication in the proposed new research direction is an indication that the proposed work may not be in a new research direction for the ESI.

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

Letter of Intent: Not Applicable

Proposal Submission Deadline: January 26, 2021; May 26, 2021; September 28, 2021; January 26, 2022; May 26, 2022; September 27, 2022; January 26, 2023; May 26, 2023; September 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: [Katz R01 Award Clinical Trial Not Allowed IC-Specific Scientific Interests and Contacts website](#)

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

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: Ultra-wide Bandgap RF Electronics Center Fiscal Year 2022

Agency: Department of Army Material Command W911NF-21-S-0003

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=330032>

Brief Description: The technical portion of this BAA consists of three main topics: Ultra-wide Bandgap (UWBG) Semiconductor Physics and Devices, UWBG Materials, and Physics-Driven Machine Learning for UWBG Materials and RF Device Development. A main topic may be further divided into sub-topics. Teams are encouraged to self-organize at any scale to create a proposal to address one, several, or all of these areas as they see fit. The TPOCs listed in this BAA will be able to assist potential proposers in this during the white paper stage, and this aspect will in particular be a focus at the Proposers' Day described in I.A.6.a. The full Center will be selected from a set of these Teams (as separate Team awards) that will together cover the full scope of the BAA. Team awards can themselves include sub-awards to one or more institutions or organizations, because the necessary expertise in addressing the numerous facets of the topics may reside within different organizations. Teams will be appropriately scoped for the level of effort taken on. All Team awards will collaborate and cooperate among themselves and with the Army Science and Technology (S&T) enterprise in accomplishing the research objectives.

Awards: Multiple awards are anticipated. Award Ceiling: \$4,500,000

Letter of Intent: Please see below.

Proposal Deadline: White Papers Due: 15 February 2021

Final Proposals by Invite Only Due: 1 June 2021

Proposers' Day: 15 December 2020 1100-1500 Eastern Time. Virtual venue. Registration required and limited. Information available at link below: <https://www.eventbrite.com/e/ultra-wide-bandgap-rf-electronics-center-proposers-day-2020-tickets-127230577081>

Contact Information: Program Manager: Joe X Qiu, joe.x.qiu.civ@mail.mil , (919) 549-4297

Grant Program: Synthetic Biology

Agency: Department of Army Center for Synthetic Biology W911NF-21-S-0002

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=329839>

Brief Description: The Army Center for Synthetic Biology aims to promote research in specific areas of synthetic biology and to promote a candid and constructive relationship between the Army Science and Technology (S&T) enterprise and the synthetic biology research community.

Strong collaborations between DA and academia are necessary to overcome challenges associated with achieving the desired goals. Tackling these will require a large comprehensive cooperative effort (while also allowing for exploratory efforts for high-risk concepts) with a teamed approach involving multiple researchers collaborating across separate disciplines. Listed below are knowledge gaps and basic research opportunities which are to be addressed by the Army Center for Synthetic Biology. These are discussed in further detail as the Technical Thrust Areas in Section II.A.2.

- a. Predictive Design of Engineered Biological Materials
- b. Predictive Design of Engineered Cellular Systems in Defined Environments

Awards: Multiple awards are anticipated. Award Ceiling: \$2,000,000

Letter of Intent: Please see below.

Proposal Deadline:

Whitepapers Due:

Funding Area One (Team): 01 February 2021

Funding Area Two (Seedling): 01 February 2021, 01 February 2022, 01 February 2023, 01 February 2024

Final Proposals by Invite Only Due:

Funding Area One (Team): 24 May 2021

Funding Area Two (Seedling): 24 May 2021, 24 May 2022, 24 May 2023, 24 May 2024

Contact Information: William A Creech Contracting/Grants Officer Phone 9195494387

[Point of Contact](#)

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

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

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

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

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

Awards: Multiple awards are anticipated.

Letter of Intent: Not required.

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

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

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

william.m.mullins@navy.mil

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

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

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

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

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

Awards: It is anticipated that \$3M in annual funding will be available for award to a single proposal under Funding Area One (Center). It is also anticipated that up to \$1M in annual aggregate funding will be available for all awards under Funding Area Two (Seedling). It is anticipated that the Seedling awards will range from \$60k-\$250k per year, with typical awards in the range of \$120k-\$180k per year. Awards in the upper end of the range will be made only for extremely meritorious proposals. Seedling Proposals submitted under Funding Area Two in excess of \$250k per year will not be considered. It is anticipated that \$4M per year is the aggregate funding available for all full proposal awards under the EBRC BAA (to include Center and Seedling awards).

Letter of Intent: White papers are required.

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

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

Grant Program: Young Faculty Award (YFA)

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

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

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

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

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

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

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

Grant Program: Defense Sciences Office Office-wide

Agency: Department of Defense DARPA - Defense Sciences Office HR001120S0048

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

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

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

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

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

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

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

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

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

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

Awards: Multiple awards are anticipated

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

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

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Department of Transportation

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

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

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

Brief Description: The Pilot Program for TOD Planning is intended to fund comprehensive planning that supports economic development, ridership, multimodal connectivity and accessibility, increased transit access for pedestrian and bicycle traffic, and mixed-use development near transit stations. The program also encourages identification of infrastructure needs and engagement with the private sector. Consistent with statutory direction, FTA is seeking comprehensive planning projects covering an entire transit capital project corridor, rather than proposals that involve planning for individual station areas or only a small section of the corridor. To ensure any proposed planning work reflects the needs and aspirations of the local community and results in concrete, specific deliverables and outcomes, transit project sponsors must partner with entities with land use planning authority in the transit project corridor to conduct the planning work.

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

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

Letter of Intent: Not Required

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

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

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Department of Agriculture:

Grant Program: 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: Community Connect Grant Program

Agency: Department of Agriculture RDRUS-CC-2021

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

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

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

Proposal Deadline: December 23, 2020

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

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

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

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

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

Letter of Intent: Required.

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

Proposal Deadline: Thursday, July 29, 2021

Contact Information: [AFRI Coordination Team](#)

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[Department of Labor](#)

Grant Program: H-1B One Workforce Grant Program

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

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

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

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

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

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

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

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[Department of Commerce/EDA](#)

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

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

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

Brief Description: This Broad Agency Announcement is a mechanism to encourage research, education and outreach, innovative projects, or sponsorships that are not addressed through NOAA's competitive

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

Awards: Contingent to the availability of funds.

Letter of Intent: Contact the program director.

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

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

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[EPA](#)

Grant Program: Technical Assistance to Brownfields Communities

Agency: Environmental Protection Agency EPA-OLEM-OBLR-20-08

Website: <https://www.epa.gov/grants/technical-assistance-brownfields-communities-0>

Brief Description: A critical part of EPA's Brownfields and Land Revitalization Program is to ensure that residents living in communities historically affected by economic disinvestment, health disparities, and environmental contamination have an opportunity to reap the benefits from brownfields redevelopment. The Program has a rich history rooted in a commitment to environmental justice and to helping communities revitalize brownfield properties, mitigate potential health risks, and restore economic vitality.

EPA's Office of Brownfields and Land Revitalization (OBLR) is soliciting applications from eligible entities to provide technical assistance within the geographic areas delineated in Section I.B.6. to assist communities facing brownfields challenges. Cooperative agreements awarded under this announcement will help communities tackle the challenge of assessing, cleaning up and preparing brownfield sites for redevelopment, especially underserved/rural/small and otherwise distressed communities. The technical assistance provided through these agreements will cover technical support on various brownfields subject areas. Regardless of the mechanism by which the technical assistance is made available, it should be geared toward results and in helping the community to move its brownfield sites forward in the process toward cleanup and reuse. In addition, understanding the underlying technical issues associated with a brownfield site will enable communities to participate substantively in brownfield site decisions. For the purposes of this solicitation, technical assistance is defined as providing advice and support, in the form of specialized knowledge, to a person or organization with the goal of guiding them through the brownfield assessment, cleanup and revitalization process or helping them understand complex brownfields-related subject matter. The recipient will provide technical assistance, consistent with EPA policy and procedures, and serve as an independent source of information to assist communities.

Award: The total estimated funding for the solicitation is \$11,000,000. EPA anticipates award of up to 11 cooperative agreement(s). The maximum value of each agreement will be based on the technical

assistance being provided but the funding for no geographical area will exceed \$1,000,000 under this competitive opportunity.

Submission Deadline: December 22, 2020, 11:59 p.m. Eastern Time (ET)

Contact: Sahar Rana, (202)566-2916 rana.sahar@epa.gov

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

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

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

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

Award: It is anticipated that a total of approximately \$6.2 million will be awarded under this announcement.

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

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

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Department of Energy

Grant Program: Systems Biology of Bioenergy-Relevant Microbes to Enable Production of Next-Generation Biofuels and Bioproducts

Agency: Department of Energy Office of Science DE-FOA-0002448

Website: <https://www.grants.gov/web/grants/view-opportunity.html?oppId=330176>

Brief Description: The DOE SC program in Biological and Environmental Research (BER) hereby announces its interest in receiving applications for research within the Biological Systems Science Division's (BSSD) Genomic Science Program (GSP) (<http://genomicscience.energy.gov>) mission-space. This FOA solicits applications for: a) research to advance the development of promising new model organisms, microbial functional capabilities, and biosynthetic pathways relevant to biofuels and bioproducts production; and b) research into the metabolic pathways that can achieve synthetic polymer deconstruction and conversion to recycled monomers.

The ability to manipulate microbial biosynthetic pathways and metabolism using synthetic biology provides unprecedented opportunities to address a wide range of topics related to DOE's mission in sustainable bioenergy development. This includes research that enhances the production of advanced biofuels, bioproducts as well as the conversion and upcycling of synthetic polymers. To enable a future where biological systems can be designed and modified for desired specific outcomes and deliver positive

impacts for the environment and the bioeconomy, the GSP is soliciting applications in the following subtopic areas for this FOA:

SUBTOPIC A - SUSTAINABLE BIOENERGY

SUBTOPIC B - POLYMER UPCYCLING

Awards: It is anticipated that award sizes may range from \$250,000 per year to \$500,000 per year.

Anticipated available funding: \$9,000,000

Letter of Intent: Please see below.

Submission Deadline: Submission Deadline for Pre-Applications: January 19, 2021 at 5 PM Eastern Time
A Pre-Application is required Pre-Application Response Date: January 29, 2021 at 5 PM Eastern Time
Submission Deadline for Applications: April 6, 2021 at 11:59 PM Eastern Time

Contact: Dr. Dawn M. Adin Dawn.adin@science.doe.gov Dr. Boris Wawrik
boris.wawrik@science.doe.gov

Grant Program: Environmental System Science

Agency: Department of Energy Office of Science DE-FOA-0002392

Website: https://science.osti.gov/-/media/grants/pdf/foas/2021/SC_FOA_0002392.pdf

Brief Description: The DOE SC program in Biological and Environmental Research (BER) hereby announces its interest in receiving applications for research in Environmental System Science (ESS). The goal of the ESS program in BER is to advance an integrated, robust, and scale-aware predictive understanding of terrestrial systems and their interdependent biological, chemical, ecological, hydrological and physical processes. The program seeks to develop an integrated framework using a systems approach to unravel the complex processes and controls on the structure, function, feedbacks, and dynamics of terrestrial ecosystems, spanning from the bedrock through the rhizosphere and vegetation to the atmospheric surface layer. The scope includes watersheds and coastal zones, terrestrial-aquatic interfaces, and understudied ecosystems that represent a 2 significant knowledge gap in local and regional process models and predictive Earth system models.

This FOA will consider applications that focus on measurements, experiments, field data, and modeling to provide improved understanding and representation of ecosystems and watersheds in ways that advance the sophistication and capabilities of models that span from individual processes to Earth system scales. This FOA will encompass three Science Research Areas: 1) Terrestrial-Aquatic Interfaces (TAI), specifically seeking research exploring ecological and environmental dynamics that in turn influence hydro-biogeochemical processes in zones with wide-ranging cyclic soil saturation states; 2) Perturbations and Disturbances, specifically studying watershed and ecosystem responses, feedbacks, and recovery from extremes events and chronic compounding perturbations and environmental shifts; and 3) Novel Methods for Capturing “Hot Spots” and “Hot Moments” of Biogeochemical Activity, to develop and demonstrate methodologies suitable for precisely measuring the occurrence and quantifying the magnitude of “hot spots” and/or “hot moments” in ways that are extensible to different types of watersheds, ecosystems or regions.

Awards: Total funding up to \$8,000,000 is expected to be available to support this FOA subject to appropriation of funds by the Congress. Approximately 5 to 12 awards are expected.

Letter of Intent: Please see below.

Submission Deadline: Submission Deadline for Pre-Applications: December 17, 2020 at 5:00 pm Eastern Time
A Pre-Application is required Pre-Application Response Date: January 7, 2021 at 11:59 pm Eastern Time
Submission Deadline for Applications: March 4, 2021 at 11:59 pm Eastern Time

Contact: Dr. Jennifer Arrigo Jennifer.Arrigo@science.doe.gov

Dr. Brian Bencoter Brian.Bencoter@science.doe.gov

Grant Program: Connected Communities**Agency: Department of Energy DE-FOA-0002206****Website:** <https://eere-exchange.energy.gov/#FoaId9d24afcd-e292-4ea2-a4d3-d36e2b9dd9c7>

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

Awards: Anticipated available funding: \$65,000,000**Letter of Intent:** Concept Paper Submission Deadline: 2/17/2021 5:00 PM ET**Submission Deadline:** Full Application Submission Deadline: 3/3/2021 5:00 PM ET**Contact:** EERE-ExchangeSupport@hq.doe.gov

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

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[NASA](#)**Grant Program: Heliophysics Environmental and Radiation Measurement Experiment Suite (HERMES) Interdisciplinary Science Teams****Agency: NASA NNH20ZDA001N-HIDS****Website:** <https://nspires.nasaprs.com/external/solicitations/summary.do?sollId=%7BD70A2E61-DEF0-5CBA-CDDF-BC94D4D2C88E%7D&path=&method=init>

Brief Description: This program element is for the Heliophysics Environmental and Radiation Measurement Experiment Suite (HERMES) Interdisciplinary Science (IDS) Teams that propose investigations that address HERMES Objectives (Section 1.2) using data products from HERMES and from other sources. This program element solicits proposals for HERMES Interdisciplinary Science Teams (HIDS) that will conduct science investigations addressing the HERMES science objectives and additional science objectives enabled by HERMES observations at Gateway, using HERMES data products. Other data sources are allowed. These investigations should have as one of their goals the timely production of results of importance to HERMES.

Awards: Various**Notice of Intent:** Please see below.**Proposal Deadline:** HIDS Step-1 Proposal due: Jan 07, 2021. Step-2 proposals: due February 25, 2021.**Contact:** James Spann Heliophysics Division Science Mission Directorate NASA Headquarters Washington, DC 20546-0001 Telephone: 202-358-0574 Email: jim.spann@nasa.gov

Grant Program: ROSES 2020: Future Investigators in NASA Earth and Space Science and Technology**Agency: NASA NNH20ZDA001N-FINESST**

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

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

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

Notice of Intent: Please see below.

Proposal Deadline: ASTRO20 Proposals Due Feb 04, 2021

EARTH20 Proposals Due Feb 04, 2021

HELIO20 Proposals Due Feb 04, 2021

PLANET20 Proposals Due Feb 04, 2021

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

Planetary Science: lindsay.hays@nasa.gov

Astrophysics: hannah.jang-condell@nasa.gov

Heliophysics: madhulika.guhathakurta@nasa.gov

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National Endowment of Humanities

Grant Program: Collaborative Research

Agency: National Endowment for the Humanities 20201202-RZ

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

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

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

Proposed projects must aim to result in tangible and sustainable outcomes, for example, co-authored or multi-authored books; born-digital publications; themed issues of peer-reviewed journals; a

series of peer-reviewed articles; and open-access scholarly digital resources. All project outcomes must incorporate interpretive work and collaboration to address significant humanities research questions.

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

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

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

Grant Program: Digital Humanities Advancement Grants

Agency: National Endowment for the Humanities 20210115-HAA

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

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

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

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

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

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

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Private Foundations

Whitehall Foundation

Grant Program: Bioscience Research Projects

Agency: Whitehall Foundation

Website: <http://whitehall.org/grants/>

Brief Description: The [Whitehall Foundation](#) assists scholarly research in the life sciences through its research grants and grants-in-aid programs. It is the foundation's policy to support those dynamic areas of basic biological research that are not heavily supported by federal agencies or other foundations with specialized missions. The foundation emphasizes the support of young scientists at the beginning of their careers and productive senior scientists who wish to move into new fields of interest. To that end, the foundation invites LOIs for two grant programs: Research and Grants-in-Aid

Awards: Research Grants: Grants for up to \$225,000 for three years will be awarded.

Grants-in-Aid — One-year grants of up to \$30,000 will be awarded to researchers at the assistant professor level who experience difficulty in competing for research funds because they have not yet become firmly established. Grants-in-Aid can also be made to senior scientists.

Letter of Intent: January 15, 2021

Proposal Deadline: The Foundation will accept letters of intent by email for all letter of intent deadlines in 2021. **Please send all letters of intent to LOI@whitehall.org**

Contact: If you have any questions, please contact Richard Rosenberg at rmr@njit.edu

NetGain Partnership

Grant Program: Digital Misinformation

Agency: NetGain Partnership

Website: <https://www.netgainpartnership.org/smallgrantsrfp>

Brief Description: The NetGain Partnership is a philanthropic collaboration seeking to advance the public interest in the digital age. Most recently, NetGain has focused on the theme 'Digital Threats to Democracy' to understand the impact of dominant platforms. The scale of platforms' influence and increasing number of harms to society continue to represent a considerable challenge for policymakers and civil society, where there is no single solution, but rather a number of different approaches and issues that have to be tackled in parallel.

The NetGain Small Grants Fund is managed by [Media Democracy Fund](#). It will support projects that catalyze or build on ideas that emerged from NetGain years Four and Five around digital threats to democracy, mis/disinformation and public interest research on the platforms. This includes:

- Projects that investigate, reveal and/or explain the extent and impact of mis/disinformation facilitated by the platforms, or other projects that advance knowledge on societal harms caused by platform companies.
- Projects that provide policy, legal, public education or technological interventions as counterweights to growing platform power.

Eligible activities include research, collaborative projects and/or campaigns, virtual convenings, and creative interventions (i.e., tech tools, art, or cultural projects)

Letter of Intent: Submit a concept note via website at <https://www.netgainpartnership.org/smallgrantsrfp> by January 11, 2021.

Awards: Requests of \$25,000 to \$100,000 will be considered. We will permit a timeline of up to 12 months, with a mid-term progress and final report.

Proposal Deadline: Concept paper by January 11, 2021.

Contact: If you have any questions, please contact Richard Rosenberg at rmr@njit.edu

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Streamlyne Question of the Week

Question: I need to change my budget - Do I need to change it in Streamlyne?

Answer: You can change your budget at any point before submitting the proposal into workflow approval. For more information, please contact your college ambassador, or see New User Manual posted on the Research website

<http://www.njit.edu/research/sites/research/files/StreamlyneNewUserManualCommonElements.pdf>).

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

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[Proposal Submission and Streamlyne Information](#) **[Internal Timeline for Successful and Timely Proposal Submission](#)**

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

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

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