NJIT Research Newsletter

Issue: ORN-2021-12

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

2021 NJIT Integrated Research Virtual Showcase (WebEx)
Research Institutes, Centers and Labs
and
Introduction of FY20 and FY21 New Faculty
March 30, 2021; 9.00 AM -11.30 AM

The Office of Research will host the **2021 NJIT Integrated Research Virtual Showcase** on March 30, 2021 via WebEx featuring 135 research institutes, centers and labs along with 32 new faculty who joined NJIT in FY20 and FY21. The integrated showcase will start at 9.00 AM with a Distinguished Keynote Talk on "Research, Innovation and Entrepreneurship in Bioscience" by Dr. Colin Brenan, Founder/CEO and Director of the single cell instrumentation company 1CellBio Inc. (www.1cell-bio.com). The keynote

talk will be followed by 3-minutes research pitch presentations by our new FY20 and FY21 faculty as their introductions to NJIT community.

NJIT will publish a booklet with summary descriptions of the NJIT research institutes, centers and labs similar to those published in the past and posted on the website https://research.njit.edu/research-data-and-publications. The 2021 booklet will be posted on the website and a link will be sent to Presidents, Provosts and Deans of the top 150 universities in the nation via NJIT Research eNewsletter.

The showcase will provide a unique opportunity to learn about NJIT research enterprise and resources including institutes, centers and labs and faculty expertise towards developing future research collaborations and synergy. Though we will not have individual presentations for the research institutes, centers and labs due to time constraint and virtual format, their summary descriptions will be published in the 2021 booklet, and their ppt slides will be available through a shared database folder on NJIT Google Drive.

Agenda:

9.00 AM: Welcome Remarks
            Atam Dhawan, Senior Vice Provost for Research
            Fadi Deek, Provost and Senior Executive Vice President

9.10 AM: Distinguished Speaker Introduction
            Atam Dhawan, Senior Vice Provost for Research

9.15 AM: Distinguished Keynote Talk
            "The Rough and Tumble of Entrepreneurship: Lessons Learned by a Life Sciences
                Entrepreneur (thus far)"
            Colin Brenan, Founder/CEO at 1CellBiO Inc.
            https://www.linkedin.com/in/colin-brenan-a524bb6/

10.00 AM: Welcome Remarks
            Joel Bloom, President

10.05 AM: Research Institutes Presentations (3 minutes each)
            David Bader, Director, Institute of Data Science
            Haimin Wang, Director, Institute of Space Weather Sciences
            Michael Ehrlich, Director, Leir Research Institute for Business, Technology, and Society
            Farzan Nadim, Director, Institute of Brain and Neuroscience Research
            Som Mitra, Director, York Center: York-LSEC-MIC Material Characterization and
                Device Fabrication Research Resource
            William Lutz, General Manager, Entrepreneurship & Commercialization, New Jersey
                Innovation Institute

10.30 AM: New Faculty Research Pitch Presentations (3 minutes each)

            NCE:
            William Pennock, Assistant Professor, CEE
            Meng-Qiang (Mark) Zhou, Assistant Professor, CME
            Joshua Young, Assistant Professor, CME
            Fatemeh Ahmadpoor, Assistant Professor, MIE
            Samaneh Farokhirad, Assistant Professor, MIE

Lin (Aileen) Dong, Assistant Professor, MIE
Jonathan Grasman, Assistant Professor, BME
Alex Dytso, Assistant Professor, ECE
Philip Pong, Associate Professor, ECE
Chang Yaramothu, Assistant Professor, SAET

MTSM:
Aichih (Jasmine) Chang, Assistant Professor, MTSM
Alberto Martin-Utrera, Assistant Professor, MTSM

CSLA:
Omowunmi Sadik, Distinguished Professor and Chair, CES
Julie Ancis, Professor, HUM
Zuofeng Shang, Assistant Professor, MATH
Farnaz Shakib, Assistant Professor, CES
Xiaonan Tai, Assistant Professor, BIOL
Junjie Yang, Assistant Professor, PHY
Michael Eberhart, Assistant Professor, CES
Yelda Semizer, Assistant Professor, HUM
Amir Khashayar Varkouhi, Assistant Professor, CES

YWCC:
Cody Buntain, Assistant Professor, INF
Salam Daher, Assistant Professor, INF
Pan Xu, Assistant Professor, CS
Przemyslaw Musialski, Assistant Professor, CS
Mark Cartwright, Assistant Professor, INF

HCAD:
Hyojin Kim, Associate Professor, HCAD

12.30 PM: Closing Remarks.

The 2021 NJIT Integrated Research Showcase program booklet and PPT presentations of Research Institutes, Centers and Laboratories, and New Faculty are accessible to NJIT community through the shared folder via the NJIT [Google Drive link]. Please log-in using your NJIT UCID while accessing the 2021 NJIT Integrated Research Showcase folder on the shared drive.

Distinguished Keynote Talk: "The Rough and Tumble of Entrepreneurship: Lessons Learned by a Life Sciences Entrepreneur (thus far)"
Abstract: Start-ups are intrinsically challenging with a success rate of 30% for even veteran entrepreneurs. Given the odds are long and not in your favor, why choose this career path? I have found from my over twenty years as a biotech entrepreneur there are immense rewards and personal satisfaction in translating innovation from university research labs into products and services valued by customers and society. My talk starts with describing those business basics that, if ignored, increases the probability for failure. I illustrate the dynamics of these factors with four case studies from my own experiences and conclude with a summary of take-home lessons for entrepreneurs to consider in their companies.

Speaker's Biographical Sketch: Colin J.H. Brenan is a serial life sciences entrepreneur and senior executive with over 30 years of experience in building high growth, early-stage life science companies based on in-licensed university research. Dr. Brenan is presently Founder/CEO and Director of the single cell instrumentation company 1CellBio Inc. (www.1cell-bio.com); formerly Founder/Chief Commercial

Officer and Director of antibody drug developer HiFiBiO Ltd (www.hifibio.com); and, a Managing Partner of the seed stage investment fund 7Pines Holding BV. Previously he was Managing Director of the Monsanto-Atlas Seed Fund Alliance at Atlas Venture (Cambridge, USA) where he identified and invested in seed and early-stage life science companies. Prior to Atlas, Dr. Brenan was Director of Strategic Relationships for the Center for Integration of Medicine and Innovative Technology (**CIMIT**) – a Partners Healthcare innovation center (Boston, MA).

Before joining CIMIT, Dr. Brenan was the Founder, Chief Technology Officer, SVP, Business Development and a Director of BioTrove Inc. (Woburn, USA), a life science nanofluidic tools company spun-out from the Massachusetts Institute of Technology (MIT) and acquired by Life Technologies Inc. (LIFE:NASDAQ); and a Founder of Biocius Inc., a drug discovery instrument and service provider spun-out from BioTrove and acquired by Agilent Inc. (A:NYSE).

Dr. Brenan is the inventor on 26 US patents, 27 non-US patents, +60 patent applications and published +50 peer-reviewed journal articles, book chapters and reports in the fields of bio-microsystems, confocal microscopy, spectroscopic imaging, drug discovery and microsurgical robotics. He has over a decade of experience in consulting for the US National Institutes of Health and is a reviewer for IEEE, IEE, and AIP journals. Dr. Brenan is an IEEE Senior Member, serves currently as the IEEE-EMBS VP of Technical Activities and is formerly Editor-in-Chief of IEEE PULSE Magazine. He received his B.Sc. (Honors Physics), M. Eng. (Electrical), and Ph.D. (Biomedical Engineering) from McGill University (Montreal, Canada) and completed postdoctoral training at MIT (Cambridge, USA).

2021 NJIT Integrated Research Showcase WebEx Event Log-In Information for Attendees:

CONNECT with COMPUTER:
> Click this link:
> https://njit.webex.com/njit/onstage/g.php?MTID=ebf764c2768d547f59e4dbe5217c892a2

> OR (alternatively)
> Go to: njit.webex.com
> Enter meeting number: 120 297 0264 Hit Enter.
> Enter your name, email, and Event password: Meeting password: **NJIT** (all uppercase)
> Click "Join Now"

CONNECT with TELEPHONE:
Call: 1-650-479-3207; Enter meeting number: 120 297 0264 followed by #
Then, for Attendee ID number, hit #

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. 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: **Mathematical and Physical Sciences Ascending Postdoctoral Research Fellowships;** NSF Convergence Accelerator Program; Broadening Participation in Computing (BPC); Launching Early-Career Academic Pathways in the Mathematical and Physical Sciences (LEAPS-MPS); Scholarships in STEM Network (S-STEM-Net); NSF Boosting Research Ideas for Transformative and Equitable Advances in Engineering (BRITE)

NIH: **NLM Institutional Grants for Research Training in Biomedical Informatics and Data Science (T15); Academic-Industrial Partnerships for Translation of Technologies for Diagnosis and Treatment (R01); Cutting-Edge Basic Research Awards (CEBRA) (R21);** Support for Research Excellence – First Independent Research (SuRE-First) (R16); Exploratory Data Science Methods and Algorithm Development in Infectious and Immune-mediated Diseases (R21); BRAIN Initiative: Integration and Analysis of BRAIN Initiative Data (R01)

Department of Defense/US Army/DARPA/ONR: **Multidisciplinary Research Program of the University Research Initiative (MURI); Prevention or Reduction of Risk/Severity to Traumatic Brain Injuries; Notice of Future Artificial Intelligence Exploration Opportunity: In Pixel Intelligent Processing (IP2);** PRMRP Investigator Initiated Research Award; Defense University Research Instrumentation Program (DURIP); Science & Technology for Advanced Manufacturing Projects (STAMP)

Department of Transportation: **DDETFP Transportation Fellowship Program;** High Priority Program – Innovative Technology Deployment (HP-ITD)

Department of Agriculture: **Data and Technical Assistance (DATA) Grants Program;** Agriculture and Food Research Initiative - Foundational and Applied Science

Department of Labor: **State Apprenticeship Expansion, Equity and Innovation (SAEEI) Grant Program**

Department of Commerce/EDA: **NOAA Science Collaboration Program;** 2021 Build to Scale Program; Measurement Science and Engineering (MSE) Research Grant Programs; FY2021 to FY2023 NOAA Broad Agency Announcement (BAA)

EPA: **Early Career: Measurement and Monitoring Methods for Air Toxics and Contaminants of Emerging Concern in the Atmosphere**

Department of Energy: **Data-Intensive Scientific Machine Learning and Analysis;** Data Science to Advance Chemical and Materials Sciences; Integrated Computational and Data Infrastructure (ICDI) for Scientific Discovery

NASA: **ROSES 2021: Heliophysics Mission Concept Studies;** ROSES 2021: Living With a Star Science; New (Early Career) Investigator Program in Earth Science; Earth Science Applications: Health and Air Quality; Advanced Information Systems Technology

National Endowment of Humanities: **Digital Projects for the Public;** Humanities Initiatives; Research and Development; Awards for Faculty

Private Foundations: **U.S-Israel Binational Science Foundation (BSF)**; **NSF-BSF Joint Funding Research Grants; BSF Research Grants; Start-Up Research Grants**

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Recent Research Grant and Contract Awards

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

PI: Sergei Adamovich (PI)
Department: Center for Rehabilitation Robotics
Grant/Contract Project Title: Planning and Updating in Frontoparietal Networks for Grasping
Funding Agency: NIH
Duration: 01/01/21-12/31/21

PI: John Federici (PI)
Department: Physics
Grant/Contract Project Title: Soldier-Integrated Radar Detection and Location STTR Phase I
Funding Agency: U.S. Department of the Army
Duration: 03/01/21-07/09/21

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In the News…

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

Biden Commits to Investing 'Closer to 2%' of GDP in Science Research: President Joe Biden confirmed on Thursday that his administration is planning heavy investments "in American workers and in American science" to help ensure U.S. technological leadership on the world stage—and particularly, against China. "Back in the '60s, we used to invest a little over 2% of our entire [gross domestic product] in pure research and investments in science. Today, it's 0.7%. I am going to change that. We are going to change that," Biden said. "The future lies in who can, in fact, own the future as it relates to technology—in quantum computing, a whole range of things, including the medical fields. And so, what I'm going to do is make sure we invest closer to 2%."

His answer was in response to a question regarding tensions with China, which came up during Biden's first formal press conference as president. "Allegedly, by the time I left office as vice president, I'd spent more time with [Chinese President] Xi Jinping than any world leader," he said. Subsequently, Biden spoke for two hours on the phone with Jinping after being elected president, he noted, adding that the Chinese world leader called to congratulate him. In that conversation, he said he told his counterpart that America isn't looking for confrontation with China—but a steep and fair competition. Biden then pointed to his aims to boost federal science funding. More information is posted on the NextGov website.

Cyber Skills Gap: Though the cybersecurity "skills gap" should be an issue of the past, it remains a problem companies across industries still struggle to solve. Even with the cybersecurity workforce gap seeing its first decrease on record, cybersecurity professionals' workloads and tasks have only scaled up and increased in complexity amidst a rise in sophisticated, fast-moving attacks. The actual most critical gap for security teams across industries isn't a specific skill: it is the gap between the growing number of cybersecurity tasks and the personnel and expertise needed to complete them. Even as more individuals enter the field, a number of factors will continue to leave the cybersecurity community playing a constant game of catch up. Without solving the work-to-worker gap, trying to solve the skills gap by hiring en masse will only make a small dent in a larger, continuous problem.

These challenges include evolutions in external attack methods—such as the rise of automated attacks and advanced threat tactics. Security teams are also dealing with accelerated transformation in workforce practices and technological infrastructure, with the widespread shift toward remote working and the adoption of software-as-a-service and cloud platforms. With these compounded challenges, the cybersecurity resources gap is no longer a problem we can solve with humans alone. Rather than work harder, and throw more humans at the problem, we need to empower them to work smarter. More information is posted on the NextGov website.

Army Pursues Innovative Wearables to Better Block Infantry from Traumatic Brain Injuries: The Pentagon's primary developer of advanced military, medical material products is exploring how it might operationalize wearable Traumatic Brain Injury, or TBI, prevention devices. Specifically, the U.S. Army Medical Materiel Device Activity's Warfighter Brain Health Project Management Office is interested in technologies—designed with the intent to be cleared by the Food and Drug Administration—that can protect service members from such traumas or at least reduce the severity of them. "Identification of medical device technologies with such capabilities are essential to protect the warfighter and is vital to force protection and strength," officials from that office wrote in a request for information released this week. A brief about the RFP is also included in the Grant Opportunity section below.

In recent months, various Defense Department components have been cautiously applying diverse wearable technologies to gauge soldiers' stress, monitor for COVID-19 spread and other health- and performance-related purposes. But, according to the RFI, there remains a capability gap when it comes to wearables to confront TBIs. Those injuries occur when a human's brain is disrupted by a blow to their head, and they might immediately result in confusion, blurry vision—or worse. More information is posted on the NextGov website.

DARPA Seeks to Improve Computer Vision in 'Third Wave' of AI Research: The military's primary advanced research shop wants to be a leader in the "third wave" of artificial intelligence and is looking at new methods of visually tracking objects using significantly less power while producing results that are 10-times more accurate. The Defense Advanced Research Projects Agency, or DARPA, has been instrumental in many of the most important breakthroughs in modern technology—from the first computer networks to early AI research. "DARPA-funded R&D enabled some of the first successes in AI, such as expert systems and search, and more recently has advanced machine learning algorithms and hardware," according to a notice for an upcoming opportunity.

The special notice cites the agency's past efforts in AI research, including the "first wave"—rule-based AI—and "second wave"—statistical learning-based. "DARPA is now interested in researching and developing 'third wave' AI theory and applications that address the limitations of first and second wave technologies," the notice states.

To facilitate its AI research, DARPA created the Artificial Intelligence Exploration, or AIE, program in 2018 to house various efforts on "very high-risk, high-reward topics … with the goal of determining feasibility and clarifying whether the area is ready for increased investment." A brief about the Notice of Future Artificial Intelligence Exploration Opportunity: In Pixel Intelligent Processing (IP2) is also included in the Grant Opportunity section below. More information is posted on the NextGov website.

Progrms to Build Your Own Quantum Computers: It's all possible because of the new Qiskit Metal program from IBM, which is part of their effort to bring open-source tools to the world of quantum computing. The Qiskit Metal program promises to allow anyone to build their own quantum machine in just a few minutes. For me, it took a lot longer than that. But still, it was a relatively short period of time given the complexity of the machine I ultimately designed. This new development also moves quantum

computers one step closer to the point where they can start to be deployed in government, not just as general-purpose computers, but as highly configurable machines designed for highly specific tasks. This should also enable agencies to find out if a quantum machine might be able to solve tricky problems where traditional computing hardware isn't up to the task, or would take far too long to find a solution. The federal government is certainly interested in the competitive edge that quantum technology could provide, and support remains high in all branches of government. More information is posted on the NextGov website.

Pandemic Impact on Grants Management: EI Systems, the George Washington University, and the National Grants Management Association recently presented the results of their fifth annual grants management survey to an audience of more than 350 grant managers. Those survey results included some that could be easily foreseen, and some big surprises. All of the results have important implications for federal managers and policy-makers.

Among the easily foreseen results: COVID-19 has had a big impact on grant management and grant managers have a hard time measuring performance.

The surprises illustrate the challenges grantors face:

- Administrative costs for grant management spiked in 2020.
- Although compliance is still the biggest focus of grant manager time and effort, technology innovation holds promise for reducing that burden.
- A majority of respondents said COVID-19 significantly impacted performance.

More information is posted on the GovExec website.

Energy Commits $30 Million to Advance Quantum Tech: With strategic aims to drive new breakthroughs in quantum information science, the Energy Department recently launched a funding opportunity to award $30 million across its Nanoscale Science Research Centers, or NSRCs. Those five national user facilities host more than 3,700 researchers from academia, national laboratories and industry each year—supporting studies into matter at an extraordinarily small scale.

Through the emerging field of QIS, scientists seek to harness intricate properties of extremely tiny particles to pave the way for game-changing new approaches to computing, sensing, communication, metrology and more. It aligns well with the overall mission of Energy's BES program, which formally issued this funding opportunity. According to the announcement, BES' aim "is to support fundamental research to understand, predict, and ultimately control matter and energy at the electronic, atomic, and molecular levels to provide the foundations for new energy technologies and to support DOE missions in energy, environment, and national security." More information is posted on the NextGov website.

DARPA Announces Microelectronics Program to Boost Domestic Manufacturing of Certain Chips:
The Defense Advanced Research Projects Agency announced a program for expanding the access to domestic manufacturing capabilities for secured microelectronics development for defense systems, according to Thursday press releases. The Structured Array Hardware for Automatically Realized Applications, or SAHARA, program will enable the automated and scalable conversion of field-programmable gate array designs into Application Specific Integrated Circuit, or ASIC, platforms for defense needs, according to a DARPA press release. Intel will work with researchers from the University of Florida, University of Maryland, and Texas A&M, in a three-year partnership under the SAHARA program, according to an Intel press release.

FPGAs need to be converted to structured ASICs for performance reasons, according to the release. FPGAs are used in military applications, but ASICs work better and consume less power.

The program supports DOD's microelectronics roadmap alongside other programs including the Rapid Assured Microelectronics Prototypes-Commercial and State-of-the-Art Heterogeneous Integration Prototype projects, according to the release. Microelectronics, along with other key technology areas like 5G, biotechnology, and cyber, is one of the undersecretary of defense for research and engineering's modernization priorities. More information is posted on the NextGov website.

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Webinar and Events

Event: NSF Electronic Research Administration (ERA) Forum Webinar
Sponsor: NSF
When: March 31, 2021 1:30 PM to 3:00 PM
Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=302272&org=NSF
Brief Description: The purpose of the ERA Forum is to gather individual opinions and perspectives around NSF ERA activities. This open Forum is also used to present proposed solutions, collect feedback, understand how solutions may impact the research community, and solicit volunteers for testing.
The topics for this Forum will cover *Research.gov Modernization Updates and Proposal Preparation Demo Site: Available Functionalities for Proposers, Federal Awardee Performance and Integrity Information System (FAPIIS), and Unique Entity Identifier (UEI).*
We encourage you to send questions ahead of the March 31, 2021 event. Questions may be submitted to nsferaforum@nsf.gov.
To Join the Webinar: To participate in this event, please Register Now.

Event: 2021 NSF Engineering CAREER Proposal Writing Workshop
Junior faculty must apply by February 19, 2021, to participate in the mock panel review session
Sponsor: NSF
When: April 21, 2021; 1:00 PM - 5:00 PM
April 22, 2021; 1:00 PM - 5:00 PM
April 23, 2021; 1:00 PM - 5:00 PM
Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=302095&org=NSF
Brief Description: The **2021 NSF Engineering CAREER Proposal Writing Workshop** will be held **VIRTUALLY April 21-23, 2021**, from 1:00PM to 5:00PM ET each day. The workshop aims to provide junior faculty who plan to submit a CAREER proposal to a program in the NSF Directorate for Engineering (ENG) with a CAREER proposal review experience and a forum in which they can interact with NSF Program Directors and recent NSF CAREER awardees.
Attendees of the 2021 NSF ENG CAREER Proposal Writing Workshop will benefit from:
- Mock proposal reviews by panels
- Interactions with ENG Directorate Program Directors
- Focus sessions with recent CAREER awardees
- Interaction across disciplines and engineering schools nationwide

All activities for the 2021 NSF ENG CAREER Proposal Writing Workshop will be conducted virtually. The Mock Panel Review session is limited to 300 participants; all other sessions will be open.
To Join the Webinar: Visit **https://apply.hub.ki/career/** for details.

Event: Robotics Program Webinar for CAREER Principal Investigators
Sponsor: NSF

When: April 26, 2021, 3.00 PM – 4.30 PM
Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=302318&org=NSF
Brief Description: The Foundational Research in Robotics program is holding a webinar for prospective CAREER principal investigators on April 26, 2021, starting at 3:00 PM Eastern Time.
 To Join the Webinar: Please register in advance and submit your questions at: https://nsf.zoomgov.com/webinar/register/WN_Js6oOXw9Rweqvk5u4b47_g

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Grant Opportunities

National Science Foundation

Grant Program: Mathematical and Physical Sciences Ascending Postdoctoral Research Fellowships (MPS-Ascend)
Agency: National Science Foundation NSF 21-573
RFP Website: https://www.nsf.gov/pubs/2021/nsf21573/nsf21573.htm
Brief Description: The purpose of the Mathematical and Physical Sciences Ascending Postdoctoral Research Fellowship (MPS-Ascend) program is to support postdoctoral Fellows who will broaden the participation of groups that are underrepresented in MPS fields in the U.S. including Blacks or African Americans, Hispanics, Latinos, and Native Americans (to include Alaska Natives, Native Hawaiians or other Native Pacific Islanders) as future leaders in MPS fields. The program is intended to recognize beginning investigators of significant potential and provide them with experience in research that will broaden perspectives, facilitate interdisciplinary interactions and help broadening participation within MPS fields. The program funds postdoctoral Fellows in postdoctoral research environments that will have maximal impact on their future scientific development and facilitates their transition into a faculty appointment. Awards will support research in any scientific area within the purview of the five MPS Divisions: the Divisions of Astronomical Sciences (AST), Chemistry (CHE), Materials Research (DMR), Mathematical Sciences (DMS), and Physics (PHY). Fellowships are awards to individuals, not institutions, and are administered by the Fellows.
Awards: Individual Fellowships; Anticipated Funding Amount: $5,000,000
Letters of Intent: Not Required
Proposal Submission Deadline: June 15, 2021
Contacts: Harshal Gupta, AST, telephone: (703) 292-5039, email: hgupta@nsf.gov
- Rebecca Peebles, CHE, telephone: (703) 292-8809, email: rpeebles@nsf.gov

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Grant Program: NSF Convergence Accelerator Phases I and II for the 2021 Cohort
Agency: National Science Foundation NSF 21-572
RFP Website: https://www.nsf.gov/pubs/2021/nsf21572/nsf21572.htm
Brief Description: The NSF Convergence Accelerator program addresses national-scale societal challenges through use-inspired convergence research. Using a convergence approach and innovation processes like human-centered design, user discovery, and team science and integration of multidisciplinary research, the Convergence Accelerator program seeks to transition basic research and discovery into practice—to solve high-impact societal challenges aligned with specific research themes (tracks).

NSF Convergence Accelerator tracks are chosen in concordance with the themes identified during the program's ideation process that have the potential for significant national impact. The NSF Convergence Accelerator implements a two-phase program. Both phases are described in this solicitation and are covered by this single solicitation and corresponding Broad Agency Announcement. The link to the Broad Agency Announcement can be found [here](). The purpose of this parallel activity is to provide increased opportunities for proposals that are led by non-academic entities. Proposals that are led by Institutions of Higher Education (IHEs), non-profits, independent museums, observatories, research labs, professional societies and similar organizations should respond to this solicitation. Proposals led by for-profit or similar organizations should respond to the BAA. Phase I awardees receive significant resources to further develop their convergence research ideas and to identify important partnerships and resources to accelerate their projects, leading to deliverable research prototypes in Phase II.

This solicitation for FY 2021 invites proposals for the following Track Topics:

Networked Blue Economy (Track E): The overarching goal of Track E is to interconnect the Blue Economy and accelerate convergence across ocean sectors. This track aims to create a smart, integrated, connected, and open ecosystem for ocean innovation, exploration, and sustainable utilization.

Trust & Authenticity in Communications Systems (Track F): The overarching goal of Track F is to develop prototype(s) of novel research platforms forming integrated collection(s) of tools, techniques, and educational materials and programs to support increased citizen trust in public information of all sorts (health, climate, news, etc.), through more effectively preventing, mitigating, and adapting to critical threats in our communications systems.

Letters of Intent should identity a team with the appropriate mix of disciplinary and cross-sector expertise required to build a convergence research effort. Letters of Intent must identify one or more deliverables, how those research outputs could impact society at scale, and the team that will be formed to carry this out. Phase I proposals must describe the deliverables, a research plan, and the process of team formation that will help lead to a proof-of-concept during Phase I.

If selected, Phase I awards may receive funding up to $750,000 for 12 months duration, of which nine months includes intense hands-on activities, centering around the Program's innovation curriculum (for additional details regarding the innovation curriculum refer to section V.A.), and three months of other activities such as participation in the NSF Convergence Accelerator Pitch Presentations and Expo.

Only awardees of Phase I awards under this solicitation may submit a Phase II proposal. Phase II proposals must outline a 24-month research and development plan that transitions research into practice through convergence activities, multi-sector partnerships, and collaboration with other partners and end-users. Phase II awards may be up to $5 million for 24 months.

Awards: Standard Grant or Cooperative Agreement; Anticipated Funding Amount: $22,000,000

Letters of Intent: Proposers are required to submit a Letter of Intent by May 05, 2021 in order to submit a Phase I Full Proposal.

Proposal Submission Deadline: June 14, 2021for Phase I Full Proposals
    May 25, 2022 for Phase II Full Proposals, only Phase I awardees are eligible to apply

Contacts: Chaitanya K. Baru, telephone: (703) 292-2473, email: cbaru@nsf.gov
- Lara A. Campbell, telephone: (703) 292-7049, email: lcampbel@nsf.gov
- Pradeep P. Fulay, telephone: (703) 292-2445, email: pfulay@nsf.gov

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Grant Program: Broadening Participation in Computing (BPC)
Agency: National Science Foundation NSF 21-571
RFP Website: https://www.nsf.gov/pubs/2021/nsf21571/nsf21571.htm
Brief Description: The Broadening Participation in Computing program (BPC) aims to significantly increase the number of U.S. citizens and permanent residents receiving post-secondary degrees in the

computing disciplines, and to encourage participation of other underrepresented groups in the discipline. These groups may include women, persons with disabilities, Blacks and African Americans, Hispanics, American Indians, Alaska Natives, Native Hawaiians, and Pacific Islanders. With this solicitation, the BPC program seeks to engage the computing community to develop and implement innovative methods, frameworks, and strategies to improve recruitment and retention of these students through undergraduate and graduate degrees. Projects that target stages of the academic pipeline through faculty ranks are encouraged. All BPC projects must have the potential for widespread, national impact. That is, they should either develop an effective practice that could be widely deployed, or they should deploy existing effective practices to reach larger audiences.

The BPC program will support three categories of awards: Alliances, Demonstration Projects, and Supplements.

Alliances are broad coalitions of academic institutions of higher learning, K-12 schools, government, industry, professional societies, and other not-for-profit organizations that design and carry out comprehensive programs addressing underrepresentation in the computing disciplines. They have a large regional or national scope. Alliances operate across multiple stages of the academic pipeline and address one or several intended groups that are underrepresented. Collectively, Alliances serve as a national resource for achieving the transformation of computing education.

Demonstration Projects (DPs) are more focused than Alliance projects. Typical DPs pilot innovative programs that, once fully developed, could be incorporated into the activities of an existing or new Alliance, or otherwise scaled up for widespread impact. Examples include projects proposed by a single institution or those that focus on a single underrepresented community, a single point in the academic pathway, or a single impediment to full participation in computing. Demonstration projects should contribute knowledge to our understanding of effective teaching and learning of computing for students from groups underrepresented in computing.

Both Alliances and Demonstration Projects have significant evaluation efforts with both formative and summative components. Competitive projects will have significant impact both in the quality of opportunities afforded to participants and in the number of participants potentially served.

Awards: Standard Grant or Cooperative Agreement; Anticipated Funding Amount: $12,750,000
Letters of Intent: Not Required
Proposal Submission Deadline: June 14, 2021
Contacts: Jeffrey Forbes, Program Director, CISE/CNS, telephone: (703) 292-8950, email: jforbes@nsf.gov
- Fay Cobb Payton, Program Director, CISE/CNS, telephone: (703) 292-7939, email: fpayton@nsf.gov
- Allyson Kennedy, Program Director, CISE/CNS, telephone: (703) 292-8950, email: aykenned@nsf.gov

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Grant Program: Launching Early-Career Academic Pathways in the Mathematical and Physical Sciences (LEAPS-MPS)
Agency: National Science Foundation NSF 21-569
RFP Website: https://www.nsf.gov/pubs/2021/nsf21569/nsf21569.htm
Brief Description: With emphasis in helping to launch the careers of pre-tenure faculty in Mathematical and Physical Sciences (MPS) fields at minority-serving institutions (MSIs), predominantly undergraduate institutions (PUIs), and Carnegie Research 2 (R2) universities, and with the goal of achieving excellence through diversity, the Directorate for Mathematical and Physical Sciences hereby announces a call for Launching Early-Career Academic Pathways (LEAPS-MPS) proposals. This LEAPS-MPS call also aims to broaden participation to include members from groups underrepresented in the Mathematical and

Physical Sciences, including Blacks and African Americans, Hispanics, Native Americans, Alaska Natives, and Native Hawaiians, and other Pacific Islanders.

These grants are intended to support MPS principal investigators in initiating their research programs early in their careers, particularly at the aforementioned institutions. By providing this funding opportunity, MPS intends to help initiate viable independent research programs for researchers attempting to launch their research careers such that LEAPS-MPS awards are followed by competitive CAREER or individual-investigator grant submissions that build upon the research launched through this mechanism. This LEAPS-MPS solicitation welcomes proposals from principal investigators who share NSF's commitment to diversity.

Awards: Standard Grant or Cooperative Agreement; Anticipated Funding Amount: $5,000,000
Letters of Intent: Not Required
Proposal Submission Deadline: June 14, 2021
Contacts: Sarah Higdon (AST), telephone: (703) 292-2541, email: shigdon@nsf.gov
- Rebecca Peebles (CHE), telephone: (703) 292-8809, email: rpeebles@nsf.gov

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Grant Program: Scholarships in STEM Network (S-STEM-Net) — S-STEM Resource and Evaluation Center and S-STEM Research Hubs
Agency: National Science Foundation NSF 21-569
RFP Website: https://www.nsf.gov/pubs/2021/nsf21569/nsf21569.htm
Brief Description: Through this solicitation, NSF seeks to foster a network of S-STEM stakeholders and further develop the infrastructure needed to generate and disseminate new knowledge, successful practices and effective design principles arising from NSF S-STEM projects nationwide. The ultimate vision of the legislation governing the S-STEM parent program[1] (and of the current S-STEM-Net solicitation) is that all Americans, regardless of economic status, should be able to contribute to the American innovation economy if they so desire.

To support collaboration within the S-STEM network, NSF will fund two types of investments: An S-STEM Resource and Evaluation Center (S-STEM-REC) and several S-STEM Research Hubs (S-STEM-Hub). The S-STEM Network (S-STEM-Net) will collaborate to create synergies and sustain a robust national ecosystem consisting of multi-sector partners supporting domestic low-income STEM students in achieving their career goals, while also ensuring access, inclusion, and adaptability to changing learning needs. This network will also synthesize current achievements and investigate evolving barriers to the success of this student population. It will also disseminate the context and circumstances by which interventions and practices that support graduation of domestic low-income students pursuing careers in STEM are successful.

The target audience for this dissemination effort is the community of higher education institutions, faculty, scholars, researchers and evaluators, local and regional organizations, industry, and other nonprofit, federal, state, and local agencies concerned with the success of domestic low-income STEM students in the United States.

Awards: Standard Grant or Cooperative Agreement; Anticipated Funding Amount: $45,000,000
S-STEM-REC – one award, as a cooperative agreement.
S-STEM-Hub – up to 10 awards, as standard grants.
Letters of Intent: Required by April 16, 2021
Proposal Submission Deadline: June 16, 2021
Contacts: Alexandra Medina-Borja, Lead, telephone: (703) 292-7557, email: amedinab@nsf.gov
- Thomas D. Kim, Co-Lead, telephone: (703) 292-4458, email: tkim@nsf.gov
- Michael J. Ferrara, Co-Lead, telephone: (703) 292-2635, email: mferrara@nsf.gov

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Grant Program: NSF Boosting Research Ideas for Transformative and Equitable Advances in Engineering (BRITE)
Agency: National Science Foundation NSF 21-568
RFP Website: https://www.nsf.gov/pubs/2021/nsf21568/nsf21568.htm
Brief Description: The National Science Foundation's strategic goals are to expand knowledge and build capacity for a diverse science and engineering workforce [1,2]. The goal of this solicitation is to enable and create opportunities to advance scientific discoveries and new research using a variety of approaches that harness the national talent ecosystem of experienced faculty. Recognizing that a successful faculty research career is neither linear nor continuous, this BRITE solicitation seeks proposals that enable experienced researchers and scholars (tenured or equivalent) to forge new directions or to enter new fields by capitalizing or branching out of their established knowledge domains.
All BRITE proposals are expected to address fundamental research that creates new knowledge in one or more CMMI program areas. BRITE proposals must identify key research outcomes and describe the research plans for the period of funding sought. Although collaborative proposals are not permitted and will be returned without review, the PI can include a collaborator in a limited role as senior personnel.
Awards: Standard Grant; Anticipated Funding Amount: $10,000,000
Letters of Intent: Not Required
Proposal Submission Deadline: May 25, 2021
Contacts: Nakhiah C. Goulbourne, telephone: (703) 292-7715, email: brite@nsf.gov
- Laurel C. Kuxhaus, telephone: (703) 292-4465, email: brite@nsf.gov
- Siddiq M. Qidwai, telephone: (703) 292-2211, email: brite@nsf.gov

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National Institutes of Health

Grant Program: NLM Institutional Grants for Research Training in Biomedical Informatics and Data Science (T15 Clinical Trial Not Allowed)
Agency: National Institutes of Health RFA-LM-21-001
RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-LM-21-001.html
Brief Description: The purpose of the National Library of Medicine (NLM) Institutional Training Program in Biomedical Informatics and Data Science is to support pre-doctoral and post-doctoral training for research careers in biomedical informatics and data science. Applications may be for the creation of entirely new training programs or for the renewal of existing NLM training program grants. NLM's training programs help meet the growing need for investigators trained in biomedical computing, data science and related information fields as they directly relate to application domains in health and biomedicine, including health care delivery, basic biomedical research, clinical and translational research, public health and similar areas. Biomedical informatics and data science training is, by its nature, interdisciplinary. Trainees will come to these programs with a range of educational and professional backgrounds and receive the training they need to prepare them for research careers in biomedical informatics and data science. More information about NLM's existing training programs is available at http://www.nlm.nih.gov/ep/GrantTrainInstitute.html.
Graduates of the NLM-supported programs should be able to conduct original basic or applied research at the intersection of computer, statistical and information sciences with one or more biomedical application domains. Successful graduates of these programs will be prepared for research-oriented roles in academic institutions, not-for-profit research institutes, governmental and public health agencies,

pharmaceutical and software companies, and health care organizations. This initiative is not intended to prepare trainees for careers emphasizing planning, deployment, maintenance, or administration of computer systems in health care, public health, medical education or research. The emphasis in this program is on the development of new knowledge that advances the scientific disciplines of biomedical informatics and data science.

Awards: NLM intends to commit $12,000,000 in FY 2022 to fund up to 16 awards.
Letter of Intent: Required by April 14, 2021
Proposal Submission Deadline: May 14, 2021
Contact: Jane Ye, PhD; National Library Of Medicine (NLM); Phone: (301) 594-4927 E-mail: yej@mail.nih.gov

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Grant Program: Academic-Industrial Partnerships for Translation of Technologies for Diagnosis and Treatment (R01 - Clinical Trial Not Allowed)
Agency: National Institutes of Health PAR-21-166
RFP Website: https://grants.nih.gov/grants/guide/pa-files/PAR-21-166.html
Brief Description: The purpose of this Funding Opportunity Announcement (FOA) is to stimulate efforts to translate scientific discoveries and engineering developments into methods or tools that address problems in basic research to understand disease, or in applied research to assess risk, detect, prevent, diagnose, treat, and/or manage disease. The rationale is to deliver new capabilities to meet evolving requirements for technologies and methods relevant to the advance of research and delivery of care in pre-clinical, clinical and non-clinical settings, domestic or foreign, for conditions and diseases within the missions of participating institutes.

This FOA specifies a partnership structure that is expected to help bridge gaps in knowledge and experience by engaging the strengths of academic, industrial, and other investigators. The partners on each application should establish an inter-disciplinary, multi-institutional research team to work in strategic alliance to implement a coherent strategy to develop and translate a solution to their chosen problem. They are expected to plan, design, and validate that the solution will be suitable for end users. Each partnership should include at least one academic and one industrial organization. Each partnership should plan to transition a technology, method, assay, device, and/or system from a demonstration of possibility to a status useful in the chosen setting. Funding may be requested to enhance, adapt, optimize, validate, and otherwise translate technologies that address problems in biology, pathology, risk assessment, diagnosis, treatment, and/or monitoring of disease status.

Awards: Application budgets are limited to $499,000 (direct costs) per year for up to 5 years.
Letter of Intent: Not required
Proposal Submission Deadline: NIH standard due dates
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: Miguel R. Ossandon, Ph.D.; National Cancer Institute (NCI); Telephone: 240-276-5714 Email: ossandom@mail.nih.gov

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Grant Program: Cutting-Edge Basic Research Awards (CEBRA) (R21 Clinical Trial Optional)
Agency: National Institutes of Health PAR-21-208
RFP Website: https://grants.nih.gov/grants/guide/pa-files/PAR-21-208.html

Brief Description: Pharmacological, neurobiological, behavioral, cellular, and genetic research has provided rich insight into how addictive drugs exert their actions on the brain and other organs. Neurobiological, behavioral and cognitive studies have shown how addictive drugs affect behavior and information processing in the brain, and have helped to elucidate the normal behavioral and neurobiological processes that are "hijacked" by addictive substances. They have also helped us understand motivational aspects of SUDs and other relevant behaviors, emotional regulation, and decision-making processes. Genetic, epigenetic, and single cell studies have delineated genes, proteins, and epigenetic factors that modulate responses to drug exposures. They have also demonstrated key alleles, genes, and epigenetic modifications associated with various aspects of substance use disorders and demonstrated that there are genetic differences underlying consumption compared with problematic consequences.

Basic science discoveries have consistently been the basis for many major advances in both clinical and applied SUD research and have contributed to the development and implementation of successful treatment strategies for SUDs and associated behavioral phenotypes. Basic research has also led to the discovery of new targets for medications, non-addictive treatments for pain, the development of technologies that enhance prevention and treatment programs for SUDs, and new approaches for statistical analysis of epidemiological and clinical trials data.

The goal of NIDA's CEBRA program is to accelerate the pace of discoveries to advance addiction research by encouraging scientifically sound applications that focus on innovation. The CEBRA encourages researchers to explore new approaches, test imaginative new ideas, and challenge existing paradigms in drug addiction research.

Awards: The combined budget for direct costs for the two year project period may not exceed $275,000. No more than $150,000 in direct costs may be requested in any single year.

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

Proposal Submission Deadline: August 10, 2021

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

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

Contact: Amy C. Lossie, PhD; National Institute on Drug Abuse (NIDA); Telephone: 301-827-6092 Email: lossieac@mail.nih.gov

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Grant Program: Support for Research Excellence – First Independent Research (SuRE-First) Award (R16 - Clinical Trial Not Allowed)
Agency: National Institutes of Health PAR-21-173
RFP Website: https://grants.nih.gov/grants/guide/pa-files/PAR-21-173.html
Brief Description: The SuRE program supports research capacity building at institutions that enroll significant numbers of students from backgrounds nationally underrepresented in biomedical research (see NOT-OD-20-031), award baccalaureate and/or graduate degrees in biomedical sciences, and receive limited NIH Research Project Grant funding. It seeks to develop and sustain research excellence of faculty investigators and provide students with research opportunities while catalyzing institutional research and enriching the research environment. The SuRE program will support investigator-initiated research in the biomedical, clinical, behavioral and social sciences (collectively termed "biomedical" sciences) that falls in the mission areas of NIH Institutes, Centers, and Offices. Research activities funded by the SuRE program require participation by students. Two distinct funding opportunity announcements will be utilized to support research projects led by faculty investigators at different career stages. A third SuRE

funding opportunity announcement will support a national resource center to provide infrastructure development to SuRE-eligible institutions and application services to faculty investigators.

Awards: Applications may request up to $125,000 direct costs/year.

Letter of Intent: Not required

Proposal Submission Deadline: September 28, 2021

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

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

Contact: Lawrence Agodoa, M.D., FACP; National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK); Phone: (301) 594-9650; Email: AgodoaL@extra.niddk.nih.gov

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Grant Program: Exploratory Data Science Methods and Algorithm Development in Infectious and Immune-mediated Diseases (R21 Clinical Trial Not Allowed)

Agency: National Institutes of Health RFA-AI-21-035

RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-21-135.html

Brief Description: This R21 FOA will support applications focused on the development of novel computational, mathematical, and statistical algorithms and methods, including artificial intelligence and machine learning approaches, that can considerably improve acquisition, management, analysis, visualization, and dissemination of relevant data and/or knowledge in infectious or immune-mediated diseases. The proposed data science method or algorithm must be novel and benefit NIAID's overall research mission.

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

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

Proposal Submission Deadline: July 02, 2021

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

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

Contact: Steve Tsang, PhD; National Institute of Allergy and Infectious Diseases (NIAID); Telephone: 240-627-3330; Email: AI-DSFOAinquiries@nih.gov

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Grant Program: BRAIN Initiative: Integration and Analysis of BRAIN Initiative Data (R01 Clinical Trial Not Allowed)

Agency: National Institutes of Health RFA-MH-21-135

RFP Website: https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-21-135.html

Brief Description: This FOA supports the development of software to visualize and analyze the data as part of programs of building the informatics infrastructure for the BRAIN Initiative. Other informatics programs include developing data standards that are needed to describe the new experiments that are being created by or used in the BRAIN Initiative (RFA-MH-20-128), and creating the data infrastructures that will house the data from multiple experimental groups (RFA-MH-20-600). Each of the programs is aimed at building an infrastructure that is used by a particular sub-domain of experimentalists rather than building a single all-encompassing informatics infrastructure now. Building the infrastructure one experimental area at a time will ensure that the infrastructure is immediately useful to components of the research community. As our understanding of the brain improves, it may be possible to create linkages

between these various sub-domain specific informatics programs. Investigators of the informatics programs should keep that goal in mind and build for the future even though the current efforts are more limited in scope.

The data visualization and analysis tools supported under this FOA will make use of relevant data standards and will be built so that they can be integrated into the data repositories, both of which are created in awards under the other FOAs of the BRAIN initiative informatics program. Similarly, the data repositories will have the needed infrastructure to implement the software developed under this FOA. Awardees under all the BRAIN Initiative informatics FOAs are expected to work together. The awardees should budget for hackathons and other collaborative efforts that will be necessary to integrate the products produced by all awardees. Collaborations with neuro-informatics efforts outside of the BRAIN Initiative are both welcome and are encouraged.

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

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

Proposal Submission Deadline: October 15, 2021

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

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

Contact: Ming Zhan, Ph.D., National Institute of Mental Health (NIMH), Telephone: 301-827-3678 Email: ming.zhan@nih.gov

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

Grant Program: 2022 Department of Defense Multidisciplinary Research Program of the University Research Initiative (MURI)
Agency: Department of Defense Dept of the Army -- Materiel Command W911NF-21-S-0008
Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=332299
Other Related MURI Opportunities:
MURI ONR Announcement # N00014-21-S-F003
MURI AFOSR Announcement # FOA-AFRL-AFOSR-2021-0003
Brief Description: The MURI program supports basic research in science and engineering at U.S. institutions of higher education (hereafter referred to as "universities") that is of potential interest to DoD. The program is focused on multidisciplinary research efforts where more than one traditional discipline interacts to provide rapid advances in scientific areas of interest to the DoD. As defined in the DoD Financial Management Regulation: Basic research is systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind. It includes all scientific study and experimentation directed toward increasing fundamental knowledge and understanding in those fields of the physical, engineering, environmental, and life sciences related to longterm national security needs. It is farsighted high payoff research that provides the basis for technological progress (DoD 7000.14-R, vol. 2B, chap. 5, para. 050105. A.) DoD's basic research program invests broadly in many fields to ensure that it has early cognizance of new scientific knowledge.

Awards: The total amount of funding for the five years available for grants resulting from this MURI FOA is estimated to be approximately $190 million dollars pending out-year appropriations. MURI

awards are contingent on availability of funds, the specific topic, and the scope of the proposed work. Typical annual funding per grant is in the $1.25M to $1.5M range.
Letter of Intent: Please see below.
Proposal Deadline: White Paper Inquiries and Questions: 24 May 2021 (Monday)
White Papers must be received no later than: 7 June 2021 (Monday) at 11:59 PM Eastern Time
Application Inquiries and Questions: 13 September 2021 (Monday)
Applications must be received no later than: 27 September (Monday) at 11:59 PM Eastern Time
Contact Information: Office of Naval Research Dr. Joan S. Cleveland Email: joan.cleveland@navy.mil; Army Research Office DR. Larry Russel Jr. Email: usarmy.rtp.ccdc-arl.mbx.aro-muri@mail.mil; Air Force Office of Scientific Research Ms. Katie Wisecarver Email: MURI@us.af.mil

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Grant Program: Prevention or Reduction of Risk/Severity to Traumatic Brain Injuries
Agency: Department of Defense DARPA W81XWH-21-RFI-TJK2
Website: https://beta.sam.gov/opp/b7d62c11b37e48c4a4c411584a49dad2/view?index=opp&sort=-modifiedDate&page=1&keywords=wearable&date_filter_index=0&inactive_filter_values=false
Brief Description: The Warfighter Brain Health Project Management Office of the United States Army Medical Materiel Device Activity is currently seeking information on wearable Traumatic Brain Injury (TBI) prevention medical device technologies with a Technology Readiness Level (TRL) 4 or above (utilizing chart located in reference section of the attached expanded sources sought document) that are designed with the intent of preventing of and/or reduction of the risk/severity of TBI and achieving futureU.S. FDA clearance. Ultimately, these technology candidates must be suitable for field/operational use by U.S. Service Members. Identification of medical device technologies with such capabilities are essential to protect the warfighter and is vital to force protection and strength. The primary capability gap and areas of interest is related to wearable TBI prevention medical devices that aid in preventing brain injuries that include, but are not limited to:
Technologies that can be safely worn by U.S. Service members for extended periods and will prevent and/or lessen the risk/severity of TBI's when a Service Member is exposed to a potential concussive event(s) (ex: Blast, blunt, accelerative injury). The ideal medical device technology should be easily applied by front line users (eg: Infantry), safe, and not inhibit range of motion, impact health experienced on the battlefield, exacerbate injuries (ex: penetrating head injuries,) or compromise mission essential tasks.
Awards: Contract
Letter of Intent: Please see below.
Proposal Deadline: Jun 09, 2021
Contact Information: Timothy Kelly timothy.j.kelly169.civ@mail.mil Phone Number301-619-7806

Grant Program: Notice of Future Artificial Intelligence Exploration Opportunity: In Pixel Intelligent Processing (IP2)
Agency: Department of Defense DARPA DARPA-SN-21-20
Website:
https://beta.sam.gov/opp/1a76b321bc0e4b57939621a1b45f9a50/view?index=opp&naics=541&page=4
Brief Description: The purpose of this Special Notice (SN) is to provide public notification of additional research areas of interest to the Defense Advanced Research Projects Agency (DARPA), specifically the Artificial Intelligence Exploration (AIE) program. The mission of the Defense Advanced Research Projects Agency (DARPA) is to make strategic, early investments in science and technology that will

have long-term positive impact on our Nation's security. In support of this mission, DARPA has pioneered groundbreaking research and development (R&D) in Artificial Intelligence (AI) for more than five decades. Today, DARPA continues to lead innovation in AI research through a large, diverse portfolio of fundamental and applied R&D AI programs aimed at shaping a future for AI technology where machines may serve as trusted and collaborative partners in solving problems of importance to national security.

The pace of discovery in AI science and technology is accelerating worldwide. AIE will enable DARPA to fund pioneering AI research to discover new areas where R&D programs awarded through this new approach may be able to advance the state of the art. AIE will enable DARPA to go from idea inception to exploration in 90 days.

Awards: TBD
Letter of Intent: Please contact the PO.
Proposal Deadline: May 10, 2021
Pre-proposal inquiries and questions must be submitted not later than Friday, April 23, 2021.
Contact Information: Dr. Whitney Mason IP2@darpa.mil

Grant Program: CDMRP PRMRP Investigator Initiated Research Award
Agency: Department of Defense Dept. of the Army -- USAMRAA W81XWH-21-PRMRP-IIRA
Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=332102
Brief Description: The PRMRP Investigator-Initiated Research Award is intended to support studies that will make an important contribution toward research and/or patient care for a disease or condition related to at least one of the FY21 PRMRP Topic Areas. The rationale for a research idea may be derived from a laboratory discovery, population-based studies, a clinician's first-hand knowledge of patients, or anecdotal data. Applications must include relevant data that support the rationale for the proposed study. These data may be unpublished or from the published literature.

Impact: The Investigator-Initiated Research Award is designed to support research with the potential to yield highly impactful data that could lead to critical discoveries or major advancements. The application must clearly demonstrate the project's potential short-term and long-term outcome(s)/product(s) (knowledge and/or materiel) and how they will impact a critical problem or question in the field of research and/or patient care in the FY21 PRMRP Topic Area(s) addressed.

Research projects may focus on any phase of research from basic laboratory research through translational research, including preclinical studies in animal models and human subjects, as well as correlative studies associated with an existing clinical trial. Research involving human subjects and human anatomical substances is permitted; however, this award may not be used to conduct clinical trials.

Awards: Various; Anticipated Available Funding: $83,000,000
Letter of Intent: Please see below.
Proposal Deadline: Pre-Application Submission Deadline: 5:00 p.m. Eastern time (ET), April 28, 2021
• Invitation to Submit an Application: July 2021 • Application Submission Deadline: 11:59 p.m. ET, September 2, 2021
Contact Information: CDMRP Help Desk Phone: 301-682-5507 Email: help@eBRAP.org

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Grant Program: 2022 Defense University Research Instrumentation Program (DURIP)
Agency: Department of Defense DARPA
DURIP - ARMY SUBMISSION Dept of the Army -- Materiel Command W911NF-21-S-0004
Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=331862
Other Related DURIP Opportunities:

Air Force Office of Scientific Research FOA-AFRL-AFOSR-2021-0002
Office of Naval Research N00014-21-S-F002
Brief Description: The Department of Defense (DoD) announces the Fiscal Year 2020 Defense University Research Instrumentation Program (DURIP). DURIP is designed to improve the capabilities of accredited United States (U.S.) institutions of higher education to conduct research and to educate scientists and engineers in areas important to national defense, by providing funds for the acquisition of research equipment or instrumentation. For-profit organizations are not eligible for DURIP funding. We refer to eligible institutions of higher education as universities in the rest of this announcement. DURIP is part of the University Research Initiative (URI).
Awards: Amount of Requested DoD Funding – $50,000 to $1,500,000
Letter of Intent: Please see below.
Proposal Deadline: May 14, 2021 at 11:59 PM
Pre-proposal inquiries and questions must be submitted not later than Friday, April 23, 2021.
Contact Information: Anastasia Lenfest, Grants Officer, Phone 7035882866
anastasia.lenfest@navy.mil

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 by a successor BAA,
Contact Information: Technical Point of Contact Name: Dr. William Mullins Point of Contact Occupation Title: Program Officer Email Address: william.m.mullins@navy.mil

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Department of Transportation

Grant Program: Dwight David Eisenhower Transportation Fellowship Program (DDETFP) Graduate Fellowship
Agency: Department of Transportation 693JJ318NF5227-2021
Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=331800
Brief Description: The goals of these Grants are to provide DDETFP Graduate Fellowships to 1) attract the Nation's brightest minds to the field of transportation, 2) enhance the careers of transportation professionals by encouraging them to seek advanced degrees, and 3) bring and retain top talent in the transportation industry of the U.S.

Individual students apply for the DDETFP Graduate Fellowship. The FHWA makes awards to the Institution of Higher Education (IHE) ("Recipient") on behalf of the student ("Student Designee"). The IHE must be accredited by a federally-recognized accrediting agency and must be located within the United States or its Territories. If a student is selected to receive a fellowship, the student, their faculty advisor, and the IHE will be responsible for completing and submitting all required paperwork to execute the Agreement. Students must be prepared to submit a copy of their application package and this Notice of Funding Opportunity (NOFO) to their IHE. The Recipient will be responsible for allocating funds to the Student Designee as outlined in the Budget of the Agreement. The IHE will also be responsible for submitting all required Federal financial reports to FHWA.
Award: The FHWA expects approximately $1 million to be made available for the DDETFP Graduate Fellowship program.
Letter of Intent: Not Required
Proposal Deadline: Apr 30, 2021 Application deadline is 4/30/2021 at 5:00pm Eastern Time.
Contact Information: Ewa Flom, ewa.flom@dot.gov, 202-924-1125

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Department of Agriculture:

Grant Program: Data and Technical Assistance (DATA) Grants Program
Agency: Department of Agriculture Food and Nutrition Service USDA-FNS-SNAP-21-DATA
Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=331666
Brief Description: The purpose of the SNAP E&T Data and Technical Assistance (DATA) Grants is to support the development of State SNAP E&T data collection and reporting systems. FNS is interested in funding projects that improve States' ability to use administrative data, such as Quarterly Wage Record (QWR) information, as the source for employment and earnings of E&T participants and former participants, because it is the preferred and most reliable and efficient method to meet reporting requirements. States using random sampling to gather information are doing so as an interim approach until systems to use administrative data are in place. Therefore, proposals that include random sampling of participants or former participants as a long term strategy will not be considered.
Awards: Up to $1,000,000; Anticipated Available Funding: $3,000,000.
Proposal Deadline: April 29, 2021
Contact Information: Anna J Arrowsmith Grants Officer Anna Arrowsmith

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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: State Apprenticeship Expansion, Equity and Innovation (SAEEI) Grant Program
Agency: Department of Labor FOA-ETA-21-07

Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=331689

Brief Description: The SAEEI Funding Opportunity Announcement FOA will provide up to $87.5 million in grant awards to support the expansion and diversification of Registered Apprenticeship Programs (RAPs), as described in 29 C.F.R. 29. Grant funds will be awarded to Governor-led, state initiatives that are expanding, diversifying and transforming registered apprenticeship. Funding will provide states with the flexibility to meet specific industry needs and demands. Collectively, these efforts will aim to achieve the following goals:

1) System expansion to support the development, modernization, and diversification of RAPs;
2) Equity in apprenticeship by increasing the number of apprentices enrolled in RAPs, including underrepresented populations; and
3) Partnership and alignment to support workforce system integration;
4) Innovation in program development and recruitment strategies.

Allowable activities under this grant include activities related to establishing or expanding existing RAPs for adults and/or youth, pre-apprenticeship leading to a RAP, and wrap-around/supportive services.

Awards: FOA will provide up to $87.5 million in grant awards.

Proposal Deadline: This advance notice is to encourage potential applicants to begin forming partnerships and other early preparations to improve readiness for when the Funding Opportunity Announcement (FOA) is published. This is not a grant solicitation, and is for informational purposes only. Eligibility, scoring criteria, and other requirements for application will be outlined in full in the upcoming FOA in the spring of 2021.

Contact Information: Matthew Carls Grants Management Specialist, Carls.Matthew.L@dol.gov

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Department of Commerce/EDA

Grant Program: NOAA Science Collaboration Program
Agency: U.S. Department of Commerce National Oceanic and Atmospheric Administration (NOAA) NOAA-OAR-CPO-2021-2006797
Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=332046
Brief Description: The NOAA Science Collaboration Program (NSCP) supports research, programs, projects and other activities related to NOAA's mission, primarily through collaborations among scientists and professionals in areas of mutual interest across the full spectrum of NOAA sciences. This includes the support of undergraduate, graduate, and postdoctoral researchers and scientists with expertise in NOAA-related sciences. It is expected that some of the scientists will collaborate onsite at NOAA facilities and laboratories. Through this funding opportunity, NOAA is also interested in supporting complementary Earth systems research and modeling efforts, social science and interdisciplinary research efforts which can serve as a catalyst for collaborations between NOAA professionals and scientists supported through this program.
Awards: The total NOAA funding amount available for the NSCP is anticipated to be approximately $10,000,000 to $15,000,000 per year or a total of $50,000,000 to $75,000,000 for the five-year period.
Letter of Intent: Contact the program director.
Proposal Deadline: May 10, 2021
Contact Information: Ms. Kendra R. Hammond 301-734-1223 Work

Grant Program: 2021 Build to Scale Program
Agency: U.S. Department of Commerce EDA-HDQ-OIE-2021-2006827
Website: https://www.eda.gov/oie/buildtoscale/
Brief Description: EDA is committed to furthering technology-based economic development initiatives that accelerate high quality job growth, create more economic opportunities, and support the future of the next generation of industry leading companies. To advance these goals, EDA's Office of Innovation & Entrepreneurship awards grants through the Build to Scale Program for activities designed to develop and support regional innovation initiatives.1 EDA thereby advances the growth of connected, innovation-centric economies that increase job growth, enable the workforce of tomorrow, enhance global competitiveness, and foster global competitiveness through technology commercialization and entrepreneurship

    i.   Venture Challenge

The Venture Challenge invites organizations to submit competitive proposals that seek to support entrepreneurship and accelerate company growth in their community, region, or combination of regions. Competitive proposals will outline how the project will strengthen economic competitiveness through new product innovation or new technology adoption, enhancing research commercialization processes and outcomes, remediating structural barriers that inhibit regional innovation capacity and resilience, and/or leveraging regional competitive strengths to stimulate innovation and job creation. Companies served by the applicant organization should be challenging the status quo of established markets, commercializing technologies, and furthering job creation within their businesses. Applicants should provide evidence that illustrates how funds leveraged through this competition will not only launch new programming and/or scale existing programming, but also generate sustainable added value for the region's entrepreneurial ecosystem by augmenting existing regional assets for innovation and entrepreneurship.

The Venture Challenge is a single competition but is comprised of two funding levels: Build and Scale. Venture Challenge Build applicants may not request in excess of $750,000 over the three-year

period of performance. Venture Challenge Scale applicants must request more than $750,000 and may not request in excess of $1,500,000 over the three-year period of performance.

Venture Challenge Build applicants:
• May be piloting a solution to a demonstrated need
• May be implementing a proven solution for a new region or community
• Demonstrate a commitment and ability to collect agreed upon impacts
• Request may not exceed $750,000 over a 3-year project period
• Provide a 1:1 match

Venture Challenge Scale applicants:
• May be scaling an existing initiative that has established and achieved impacts
• Have a proven track record of successful deployment of programs
• Demonstrate a commitment and ability to collect agreed upon impacts
• Request must be greater than $750,000 and may not exceed $1,500,000 over a 3-year project period
• Provide a 1:1 match

ii.   Capital Challenge

The Capital Challenge provides operational support for the formation, launch, or scale of investment funds that seek to invest their capital in scalable startups (i.e., venture funds, seed funds, angel funds) or to organizations with a goal to expand capital deployment within a community, region, or regional industry (i.e., angel networks or investor training programs). Funding will primarily support operational and programmatic costs and may not be used as investment capital.

Capital Challenge applicants should:
• Practice equity-based investing, whether through traditional or hybrid models, or be supporting an initiative whose participants practice equity-based investing (in contrast to debt-based investing, which is not supported under the Capital Challenge)
• Evaluate companies for high-growth potential as a central factor of their investment strategy
• Utilize grant funds to catalyze the deployment of capital within their region and/or related regions • Demonstrate a commitment and ability to collect agreed upon impacts
• Request may not exceed $400,000 over a 3-year project period
• Provide a 1:1 match

Awards: Please see above for individual award information. EDA has been appropriated $38 million for grants authorized by Section 27 pursuant to the Consolidated Appropriations Act, 2021.

Letter of Intent: Not required.

Proposal Deadline: 11:59 P.M. EASTERN TIME ON THURSDAY, APRIL 29, 2021.

Contact Information: Office of Innovation and Entrepreneurship oie@eda.gov (202) 482-8001
NJ State Agency Contact: Edward Hummel ehummel@eda.gov (215) 316-2124

Grant Program: Measurement Science and Engineering (MSE) Research Grant Programs
Agency: U.S. Department of Commerce NIST 2021-NIST-MSE-01
Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=331121
Brief Description: NIST is soliciting applications for financial assistance for Fiscal Year 2021 (FY21) within the following NIST grant programs:
(1) the Associate Director for Innovation and Industry Services (ADIIS);
(2) the Associate Director for Laboratory Programs (ADLP);
(3) the Communications Technology Laboratory (CTL);
(4) the Engineering Laboratory (EL);
(5) Fire Research (FR);
(6) the Information Technology Laboratory (ITL);

(7) the International and Academic Affairs Office (IAAO);
(8) the Material Measurement Laboratory (MML);
(9) the NIST Center for Neutron Research (NCNR);
(10) the Physical Measurement Laboratory (PML);
(11) the Special Programs Office (SPO); and
(12) the Standards Coordination Office (SCO).
Awards: Various; Grants or cooperative agreements
Letter of Intent: Contact the program director.
Proposal Deadline: Applications will be accepted and considered on a rolling basis as they are received.
Contact Information: Misty L Roosa Management Analyst Phone 301-975-3007
Agency Contact

Grant Program: 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: Early Career: Measurement and Monitoring Methods for Air Toxics and Contaminants of Emerging Concern in the Atmosphere
Agency: Environmental Protection Agency EPA-G2021-STAR-C2
Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=332406
Brief Description: The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications proposing research to advance air measurement and monitoring methods for air toxics and contaminants of emerging concern in the atmosphere. Specifically, this RFA seeks research that will provide: 1. advancements in measurement techniques for real time, continuous measurements of concentrations with minimum detection limits below background

concentrations or health risk-based thresholds; and 2. advancements in stationary or mobile near source measurement methods for quantifying emission rates of fugitive emissions.
Award: Grant or cooperative agreement up to $800,000. Anticipated Funding Amount: Approximately $2.4 million total for all awards
Submission Deadline: Solicitation Closing Date: June 2, 2021, 11:59:59 pm Eastern Time
Contact: Technical Contact: Serena Chung; phone: 202-564-6069; email: chung.serena@epa.gov

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Department of Energy

Grant Program: Data-Intensive Scientific Machine Learning and Analysis
Agency: Department of Energy Office of Science DE-FOA-0002493
Website: https://science.osti.gov/ascr/Funding-Opportunities
Brief Description: The DOE SC program in Advanced Scientific Computing Research (ASCR) hereby announces its interest in research applications to explore potentially high-impact approaches in the development and use of artificial intelligence (AI) and machine learning (ML) for scientific insights from massive data generated by simulation, experiments, and observations.
Awards: DOE anticipates that, subject to the availability of future year appropriations, a total of $21,000,000 in current and future fiscal year funds will be used to support awards under this FOA.
Letter of Intent: Please see below.
Submission Deadline: Submission Deadline for Pre-Applications: April 23, 2021 at 5:00 PM Eastern Time A Pre-Application is required. Pre-Application Response Date: May 3, 2021 Submission Deadline for Applications: May 27, 2021 at 5:00 PM Eastern Time
Contact: Dr. Steven L. Lee Steven.Lee@science.doe.gov

Grant Program: Data Science to Advance Chemical and Materials Sciences
Agency: Department of Energy DE-FOA-0002474
Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=332227
Brief Description: The DOE SC program in Basic Energy Sciences (BES) announces its interest in receiving new applications from teams of investigators expanding the integration of data science methods with BES research disciplines, to accelerate scientific discovery and overcome difficult challenges in these fields. This FOA is focused on new applications that will take advantage of the rapid growth of data science, including artificial intelligence (AI) and machine learning (ML) methodologies. The FOA will support teams of investigators for synergistic computational, experimental, and theoretical research covered by the research areas in the BES divisions of Chemical Sciences, Geosciences, and Biosciences (CSGB) and Materials Sciences and Engineering (MSE). The focus of the proposed research must be on science-based, data-driven approaches enabling solutions for fundamental basic energy sciences challenges not possible otherwise. The goal of the application should be to integrate novel data science, uncertainty quantification, and other AI and ML approaches with domain sciences to uniquely advance the understanding of fundamental properties and processes relevant to chemical and materials systems and achieve predictability of functions and behavior under dynamic conditions.
Awards: Various; Anticipated Available Funding: $23,000,000
Letter of Intent: Please see below.

Submission Deadline: Submission Deadline for Pre-Applications: April 14, 2021 at 5:00 PM Eastern Time A Pre-Application is required Pre-Application Response Date: May 5, 2021 Submission Deadline for Applications: June 1, 2021 at 11:59 PM Eastern Time
Contact: Dr. Raul Miranda Program Manager raul.miranda@science.doe.gov

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Grant Program: Integrated Computational and Data Infrastructure (ICDI) for Scientific Discovery
Agency: Department of Energy DE-FOA-0002482
Website: https://www.grants.gov/web/grants/view-opportunity.html?oppId=332201
Brief Description: The DOE SC program in Advanced Scientific Computing Research (ASCR) hereby announces its interest in funding research and development projects to create an advanced Integrated Computational and Data Infrastructure (ICDI) program. This FOA is composed of two topics. Topic A "Experimental/Computational/Computer Science collaborations" addresses the challenge of creating collaborative teams of scientists to accelerate science discoveries supported by the SC programs. Applications to this topic must be submitted by multi-investigator teams. Topic B: "Intelligent Distributed Infrastructure Simulation Capabilities" addresses the challenge of modeling, simulating, and validating the performance of geographically distributed science infrastructures. Both single and multiple investigator applications may be submitted.
Awards: Various; Anticipated Available Funding: $13,500,000
Letter of Intent: Please see below.
Submission Deadline: Submission Deadline for Letters of Intent: April 2, 2021 at 5:00 PM EST A Letter of Intent is required Letter of Intent Response Date: April 9, 2021 at 5:00 PM EST Submission Deadline for Applications: May 14, 2021 at 5:00 PM EST
Contact: Richard Carlson Program Manager Phone 301-903-9486 Program Manager Email

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NASA

Grant Program: ROSES 2021: Heliophysics Mission Concept Studies
Agency: NASA NNH21ZDA001N-HMCS
Website: https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7B39554337-ED9A-7C4F-EC92-DCB9DC510DDE%7D&path=&method=init
Brief Description: The Heliophysics Mission Concept Studies (HMCS) program will fund six-month-long mission concept studies that are part of community preparation for the next Solar and Space Physics Decadal Survey. These studies will be conducted by the proposal team, using mission design capabilities included in the proposal, and will result in a final mission concept report delivered to NASA. Additionally, NASA will support awardees submitting and briefing the mission concept to the Decadal Survey Committee ("the Committee" see Section 2.2). Should NASA choose to develop a mission that flows from any selected mission concept study, the responsibility for that mission will be assigned by NASA; there is no expectation that the mission concept study team or participating organizations will necessarily participate in the eventual mission development.
Awards: It is expected that there will be approximately $2.5 M available to support new mission concept studies selected through this program element.
Notice of Intent: Notices of intent are due April 23, 2021
Proposal Deadline: May 28, 2021

Contact: Jared Leisner Heliophysics Division Science Mission Directorate NASA Headquarters Washington, DC 20546-0001 Telephone: (202) 358-2016 Email: jared.s.leisner@nasa.gov

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Grant Program: ROSES 2021: Living With a Star Science
Agency: NASA NNH21ZDA001N-LWS
Website: https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7BDD29C108-980F-6F1A-AEC7-CE7375E35007%7D&path=&method=init
Brief Description: The Living With a Star (LWS) Program emphasizes the science necessary to understand those aspects of the Sun and Earth's space environment that affect life and society. The ultimate goal of the LWS Program is to provide a scientific understanding of the system that leads to predictive capability of the space environment conditions at Earth, other planetary systems, and in the interplanetary medium. Every year the LWS Program solicits Focused Science Topics (FSTs) that address some part of this goal.
This goal poses two great challenges for the LWS program. First, the program seeks to address large-scale problems that cross discipline and technique boundaries (e.g., data analysis, theory, modeling, etc.); and second, the program will identify how this new understanding has a direct impact on life and society. Over time, the Targeted Investigations have provided advances in scientific understanding that address these challenges.
Awards: TBD
Notice of Intent: Please see below
Proposal Deadline: Step-1 proposals are due September 8, 2021, and Step-2 proposals are due November 18, 2021.
Contact: Simon Plunkett Telephone: (202) 358-2034 Email: simon.p.plunkett@nasa.gov
Jeff Morrill Telephone: (202) 358-3744 Email: jeff.s.morrill@nasa.gov

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Grant Program: New (Early Career) Investigator Program in Earth Science: not solicited in ROSES-21
Agency: NASA NNH21ZDA001N-NIP
Website: https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7BC31820ED-A589-B008-7448-1014FCA16C49%7D&path=&method=init
Brief Description: The New (Early Career) Investigator Program in Earth science is designed to support outstanding scientific research and career development of scientists and engineers at the early stage of their professional careers. The program welcomes innovative research initiatives and seeks to cultivate diverse scientific leadership in Earth system science. The Earth Science Division (ESD) places particular emphasis on the investigators' ability to promote and increase the use of space-based remote sensing through the proposed research. Proposals with objectives connected to needs identified in most recent Decadal Survey Thriving on our Changing Planet: A Decadal Strategy for Earth Observation from Space are welcomed. The program supports all aspects of scientific and technological research aimed to advance NASA's mission in Earth system science (See the Science Plan at http://science.nasa.gov/about-us/science-strategy/). In research and analysis, the focus areas are: • Carbon Cycle and Ecosystems, • Climate Variability and Change, • Water and Energy Cycle, • Atmospheric Composition, • Weather, and • Earth Surface and Interior
Awards: TBD
Notice of Intent: Please see below

Proposal Deadline: This program is NOT soliciting proposals this year. The 'close date' of 02/14/2022 advertised above is not a proposal due date; NSPIRES requires that a specific close date be given. Please see the program element document above for details.
Contact: Allison Leidner Earth Science Division Science Mission Directorate NASA Headquarters Washington, DC 20546-0001 Telephone: 202-358-0855 Email: Allison.K.Leidner@nasa.gov

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Grant Program: Earth Science Applications: Health and Air Quality
Agency: NASA NNH21ZDA001N-HAQ
Website: https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7B78D66990-C241-F2F9-5A15-BC02AD87C40D%7D&path=&method=init
Brief Description: The ESD Applied Sciences Program promotes efforts to discover and demonstrate innovative and practical uses of Earth observations. The Program funds applied science research and applications projects to enable near-term uses of Earth observations, formulate new applications, integrate Earth observations and related products in practitioners' decision-making, and transition the applications. The projects are carried out in partnership with public- and private-sector organizations to achieve sustained use and sustained benefits from the Earth observations1. For more information visit the Applied Sciences Program website at http://AppliedSciences.NASA.gov/. The Program supports projects that develop and demonstrate improvements to decision-making from the use of an array of Earth observations and related products. The Program considers that Earth observations broadly include a range of products and capabilities, including Earth-observing satellite measurements (NASA in-orbit and planned satellites, as well as foreign, commercial, and other U.S. Government satellites), outputs and predictive capabilities from Earth science models, algorithms, visualizations, knowledge about the Earth system, and other geospatial products. Hereinafter, this set is referred to collectively as "Earth observations".
Awards: $3M total per year; Expected Range of Award per project: $250-350K per year
Notice of Intent: Please see below
Proposal Deadline: June 18, 2021
Contact: John Haynes Applied Sciences Program Earth Science Division Science Mission Directorate NASA Headquarters Washington, DC 20546-0001 Telephone: (202) 358-4665 Email: jhaynes@nasa.gov

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National Endowment of Humanities

Grant Program: Digital Projects for the Public
Agency: National Endowment for the Humanities 20210609-MD-MN-MT
Website: https://www.neh.gov/grants/public/digital-projects-the-public
Brief Description: The Digital Projects for the Public program supports projects that interpret and analyze humanities content in primarily digital platforms and formats, such as websites, mobile applications and tours, interactive touch screens and kiosks, games, and virtual environments. All projects should demonstrate the potential to attract a broad, general, nonspecialist audience, either online or in person at venues such as museums, libraries, or other cultural institutions. Applicants may also choose to identify particular communities and groups, including students, to whom a project may have particular appeal. A recorded webinar for prospective applicants will be posted on this page by April 16, 2021.
Award: Maximum award amount $30,000 (Discovery grants); $100,000 (Prototyping grants); $400,000 (Production grants)

Proposal Deadline: Optional Draft due May 5, 2021; Application due June 9, 2021
Contact: Contact the Division of Public Programs Team; 202-606-8269; publicpgms@neh.gov

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Grant Program: Humanities Initiatives
Agency: National Endowment for the Humanities 20210520-AA-AB-AC-AD-AE
Website: https://www.neh.gov/grants/preservation/research-and-development
Brief Description: The National Endowment for the Humanities (NEH) Division of Education Programs is accepting applications for the five Humanities Initiatives programs: Humanities Initiatives at Colleges and Universities, Humanities Initiatives at Hispanic-Serving Institutions, Humanities Initiatives at Historically Black Colleges and Universities, Humanities Initiatives at Tribal Colleges and Universities, and Humanities Initiatives at Community Colleges. The purpose of these programs is to strengthen the teaching and study of the humanities at institutions of higher education by developing new humanities programs, resources (including those in digital format), or courses, or by enhancing existing ones.
Award: Maximum award amount: $150,000 per award; Available funding: $3,000,000
Proposal Deadline: May 21, 2021
Contact: Division of Education Programs National Endowment for the Humanities 400 Seventh Street, SW Washington, DC 20506 202-606-2324 hi@neh.gov

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Grant Program: Research and Development
Agency: National Endowment for the Humanities 20210518-PR
Website: https://www.neh.gov/grants/preservation/research-and-development
Brief Description: The Research and Development program supports projects that address major challenges in preserving or providing access to humanities collections and resources. These challenges include the need to find better ways to preserve materials of critical importance to the nation's cultural heritage—from fragile artifacts and manuscripts to analog recordings and digital assets subject to technological obsolescence—and to develop advanced modes of organizing, searching, discovering, and using such materials.

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

Research and Development supports work on the entire range of humanities collection types including, but not limited to, moving image and sound recordings, archaeological artifacts, born digital and time-based media, rare books and manuscripts, archival records, material culture, and art. Applicants must demonstrate how advances in preservation and access through a Research and Development project would benefit the cultural heritage community by supporting humanities research, teaching, or public programming.

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

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

For more information about the program, you may refer to the pre-recorded webinar. Please note, the webinar was recorded in 2020 and therefore deadlines are outdated. An updated pre-recorded webinar for 2021 will be posted by March 4, 2021.
Award: Maximum award amount Tier I provides awards up to $75,000; Tier II provides awards up to $350,000
Proposal Deadline: Application due May 18, 2021
Contact: Division of Preservation and Access Team 202-606-8570; preservation@neh.gov

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Grant Program: Awards for Faculty
Agency: National Endowment for the Humanities 20210414-HB
Website: https://www.neh.gov/divisions/research
Brief Description: The Division of Research supports scholarly research that advances knowledge and understanding of the humanities. Through twelve annual funding opportunities, awards are made to scholars—individuals, collaborative teams, or institutions—working on research projects of significance to specific humanities fields and to the humanities as a whole. The projects that the division supports are as diverse as America itself: editions of the Dead Sea Scrolls, the history of "The Star Spangled Banner," and the autobiography of Mark Twain.
While Research Programs is the only NEH division to make awards to individuals, institutional grants are also available. **Collaborative Research** supports projects by teams of scholars. **Scholarly Editions and Scholarly Translations** provides funding for time-intensive editing projects such as the Papers of George Washington, and **Fellowship Programs at Independent Research Institutions** provides American scholars access to unique collections at American centers for humanities research around the world.
Award: Various
Proposal Deadline: Application due April 18, 2021
Contact: Division of Research Programs: (202) 606-8200 research@neh.gov

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Private Foundations

U.S-Israel Binational Science Foundation (BSF)

Grant Program: NSF-BSF Joint Funding Research Grants; BSF Research Grants; Start-Up Research Grants
Agency: U.S-Israel Binational Science Foundation (BSF)
Website: https://www.bsf.org.il/funding-opportunities/
Brief Description: In 2012, the BSF signed an umbrella Memorandum of Understanding with the U.S. National Science Foundation (NSF), for cooperation in joint funding of collaborative U.S.-Israeli scientific research. Consequently, the BSF signed a series of specific Memorandum of Understanding (MOU) and Letter of Intent (LOI) with a number of NSF units, for the joint funding of collaborative research programs. Presently, BSF has joint programs with all of the NSF grant making directorates and in each, with all or most divisions.
- **Foundational Research in Robotics**. This program has no deadline. You can find more details in our call for proposals here.
- **Cyber-Physical Systems**- This program has no deadline. You can find more details in our call for proposals here.

- **Mathematical and Scientific Foundations of Deep Learning**. Deadline for application by the U.S. partner to the NSF is May 12, 2021 and by the Israeli partner to the BSF is May 18, 2021. You can find more details in our call for proposals here.

These following NSF-BSF programs have deadlines as specified:

Directorate of Mathematical and Physical Sciences:
- NSF-BSF program in **Mathematical Biology**. Deadline for application by the U.S. partner to the NSF is September 6, 2021 and by the Israeli partner to the BSF is September 12, 2021. Call for Proposals can be found here.
- NSF-BSF program in **Probability**. Deadline for application by the U.S. partner to the NSF is September 27, 2021 and by the Israeli partner to the BSF is October 3, 2021. Call for Proposals can be found here
- NSF-BSF programs in **Combinatorics; Foundations**. Deadline for application by the U.S. partner to the NSF is September 28, 2021 and by the Israeli partner to the BSF is October 4, 2021. Call for Proposals can be found here
- NSF-BSF program in **Analysis**. Deadline for application by the U.S. partner to the NSF is September 30, 2021 and by the Israeli partner to the BSF is October 6, 2021. Call for Proposals can be found here
- NSF-BSF program in **Algebra and Number Theory**. Deadline for application by the U.S. partner to the NSF is October 8, 2021 and by the Israeli partner to the BSF is October 15, 2021. Call for Proposals can be found here.
- NSF-BSF program in **Physics of Living Systems**. Deadline for application by the U.S. partner to the NSF is October 18, 2021 and by the Israeli partner to the BSF is October 24, 2021. Call for Proposals can be found here.
- NSF-BSF programs **in Biomaterials; Condensed Matter Physics; Metals and Metallic Nanostructures and Polymers** within the Materials division. Deadline for application by the U.S. partner to the NSF is November 1, 2021 and by the Israeli partner to the BSF is November 7, 2021. Call for Proposals can be found here.
- NSF-BSF program in **Geometric Analysis; Topology**. Deadline for application by the U.S. partner to the NSF is November 2, 2021 and by the Israeli partner to the BSF is November 8, 2021. Call for Proposals can be found here.
- NSF-BSF program in **Basic Plasma Sciences and Engineering**. Deadline for application by the U.S. partner to the NSF is November 15, 2021 and by the Israeli partner to the BSF is November 21, 2021. Call for Proposals can be found here.
- NSF-BSF program in **Applied Mathematics**. Deadline for application by the U.S. partner to the NSF is November 15, 2021 and by the Israeli partner to the BSF is November 23, 2021. Call for Proposals can be found here.
- NSF-BSF program in **Astronomy and Astrophysics**. Deadline for application by the U.S. partner to the NSF is November 15, 2021 and by the Israeli partner to the BSF is November 21, 2021. Call for Proposals can be found here.
- NSF-BSF program in **Atomic Molecular and Optical Physics – Experiment and Theory; Gravitational Physics – Experiment and Theory; Integrative Activities in Physics; LIGO Research Support**. Deadline for application by the U.S. partner to the NSF is November 24, 2021 and by the Israeli partner to the BSF is November 30, 2021. Call for Proposals can be found here.
- NSF-BSF program in **Nuclear Physics – Experiment and Theory; Elementary Particle Physics – Experiment; Particle Astrophysics – Experiment**. Deadline for application by the U.S. partner to the NSF is December 7, 2021 and by the Israeli partner to the BSF is December 13, 2021. Call for Proposals can be found here.

- NSF-BSF program in **Computational Mathematics**. Deadline for application by the U.S. partner to the NSF is December 1, 2021 and by the Israeli partner to the BSF is December 7, 2021. Call for Proposals can be found here.
- NSF-BSF program in **Elementary Particle Physics – Theory; Particle Astrophysics and Cosmology – Theory; Quantum Information Science**. Deadline for application by the U.S. partner to the NSF is December 14, 2021 and by the Israeli partner to the BSF is December 20, 2021. Call for Proposals can be found here.
- NSF-BSF program in **Statistics**. Deadline for application by the U.S. partner to the NSF is December 15, 2021 and by the Israeli partner to the BSF is December 21, 2021. Call for Proposals can be found here.

Directorate of Geosciences:
- NSF-BSF programs in **Physical Oceanography; Chemical Oceanography**. Deadline for applications by the U.S. partner to the NSF is August 16, 2021 and by the Israeli Partner to the BSF is August 22, 2021. Call for proposals can be found here.

Directorate of Biological Sciences:
- NSF-BSF program in **Ecology and Evolution of Infectious Diseases**. Deadline for application by the U.S. partner to the NSF is November 17, 2021 and by the Israeli partner to the BSF is November 23, 2021. Call for Proposals can be found here.

Directorate of Social, Behavioral and Economics Sciences:
- NSF-BSF programs in **Social Psychology**. Deadline for applications by the U.S. partner to the NSF is July 15, 2021 and by the Israeli Partner to the BSF is July 21, 2021. Call for proposals can be found here.
- NSF-BSF programs in **Developmental Sciences**. Deadline for applications by the U.S. partner to the NSF is July 15, 2021 and by the Israeli Partner to the BSF is July 21, 2021. Call for proposals can be found here.
- NSF-BSF programs in **Economics and Decision Sciences**. Deadline for applications by the U.S. partner to the NSF is August 18, 2021 and by the Israeli Partner to the BSF is August 24, 2021. Call for proposals can be found here.
- NSF-BSF programs **in Science of Learning and Augmented Intelligence Program**. Deadline for applications by the U.S. partner to the NSF is July 14, 2021 and by the Israeli Partner to the BSF is July 20, 2021. Call for proposals can be found here.
- NSF-BSF programs in **Perception, Action and Cognition**. Deadline for applications by the U.S. partner to the NSF is August 2, 2021 and by the Israeli Partner to the BSF is August 8, 2021. Call for proposals can be found here.
- NSF-BSF programs in **Cognitive Neuroscience**. Deadline for applications by the U.S. partner to the NSF is August 13, 2021 and by the Israeli Partner to the BSF is August 19, 2021. Call for proposals can be found here.

The following NSF-BSF programs have no deadlines and are open for submission throughout the year:
- NSF-BSF programs in Computing and Communication Foundations (CCF) are open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF programs in Computer and Network Systems (CNS) are open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF programs in Information and Intelligent Systems (IIS) are open to receive applications anytime throughout the year. Call for Proposals can be found here.

- NSF-BSF programs in Chemical, Bioengineering, Environmental, and Transport Systems are open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF programs in Ceramic; Condensed Matter and Materials Theory; Electronic and Photonic Materials and the Solid State and Materials Chemistry programs in the Materials division are open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF program in Electrical, Communications and Cyber Systems is open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF program in the Civil, Mechanical and Manufacturing Innovation (CMMI) division is open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF program in Earth Sciences is open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF program in Atmospheric and Geospace Sciences is open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF program in Cyber Security is open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF program in Marine Geology and Geophysics is open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF program in Biological Oceanography is open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF program in Molecular and Cellular Biosciences is open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF program in Integrative Organismal Systems (IOS) is open to receive applications anytime throughout the year. Call for Proposals can be found here.
- NSF-BSF program in Environmental Biology (DEB) is open to receive applications anytime throughout the year. Call for Proposals can be found here.

Awards: Various
Letter of Intent: Not required
Proposal Deadline: Please see the CFPs above.
Contact: Anton Post, PhD, Executive Director, U.S. – Israel Binational Science Foundation; bsf.org.il@responder.co.il

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Streamlyne Question of the Week

Question: **How do I enter a cost share? For my salary? For other personnel and expenses?**
Answer: Cost Share for personnel other than faculty is very similar to release time –
- add the person under Key personnel
- select the period (start and end dates) that the staff/admin will be devoted to the project
- select percentage.

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

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

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

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

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