

NJIT Research Newsletter

Issue: ORN-2017-39

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**. The Newsletter is posted on the NJIT Research Website <http://www.njit.edu/research/>.

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Special Announcements

Limited Submissions Internal Competitions: NSF NRT and MRI Programs
Revised NSF RFP on Major Research Instrumentation: Eligibility and Submission Dates:
NSF 18-513

(Please see the next section for details)

NJIT Research Events

Event: President's Forum and 2017 NJIT Research Centers and Laboratories Showcase

When: November 16, 2017; 10.00 AM – 2.30 PM

Where: Ballroom A and B., Campus Center

Brief Description: The President's Forum and 2017 NJIT Research Centers and Laboratories Showcase will be held on November 16, 2017 to feature ongoing exciting research at NJIT. The showcase presents NJIT research enterprise to promote core and interdisciplinary collaborative research. This year, the showcase will feature 70 NJIT research institutes, centers and specialized laboratories. Dr. Steven Schachter, MD, Chief Academic Officer and Program Leader of NeuroTechnology at the Consortia for Improving Medicine with Innovation & Technology (CIMIT) and Professor of Neurology at Harvard Medical School will be the Keynote Speaker.

Keynote Speaker Bio: Dr. Steven Schachter is Chief Academic Officer and Program Leader of NeuroTechnology at the Consortia for Improving Medicine with Innovation & Technology (CIMIT) and a Professor of Neurology at Harvard Medical School (HMS). Dr. Schachter attended medical school at Case Western Reserve University in Cleveland, Ohio. He completed an internship in Chapel Hill, North Carolina, a neurological residency at the Harvard-Longwood Neurological Training Program, and an epilepsy fellowship at Beth Israel Hospital in Boston, Massachusetts. Dr. Schachter is Past President of the American Epilepsy Society. He is also past Chair of the Professional Advisory Board of the Epilepsy Foundation and serves on their Board of

Directors. He has directed over 70 research projects involving antiepileptic therapies, and published over 200 articles and chapters. He compiled the 6-volume Brainstorms series, which has been distributed to over 150,000 patients and families worldwide in several languages, and edited or written 26 other books on epilepsy and behavioral neurology. Dr. Schachter is the founding editor and editor-in-chief of the medical journals *Epilepsy & Behavior* and *Epilepsy & Behavior Case Reports*.

This President's forum is a featured event in the Albert Dorman Honors College Colloquium Series and is made possible in part by the generous support of the DeCaprio Family.

Grant Opportunity Alerts

Keywords and Areas Included in the Grant Opportunity Alert Section Below

NSF: Major Research Instrumentation Program (MRI), Partnerships for Innovation (PFI); Research Coordination Networks in Undergraduate Biology Education (RCN-UBE); Campus Cyberinfrastructure (CC*); NSF National Science Foundation Research Traineeship (NRT) Program; Enabling Discovery through GENomic Tools (EDGE); International Research Experiences for Students (IRES)

NIH: Bioengineering Research Grants (BRG) (R01); Translational Neural Devices (U44); Bioengineering Research Partnerships (U01); BRAIN Initiative Fellows: Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (F32); NIMH Exploratory/Developmental Research Grant (R21); NIBIB Biomedical Technology Resource Centers (P41); NIH Exploratory/Developmental Research Grant Program (R21); BRAIN Initiative: Theories, Models and Methods for Analysis of Complex Data from the Brain (R01); Program: Innovation Corps (I-Corps™) at NIH Program for NIH

Department of Defense/US Army/DARPA/ONR: Research Interests at AFOSR; Foundational Research for Autonomous, Unmanned, and Robotics Development of Medical Technologies (FORWARD) Award

Department of Energy: Solar Desalination; FY2018 Scientific Infrastructure Support for CINR Funding Opportunity Announcement; State Energy Program 2017 Competitive Awards

NASA: Use of the NASA Physical Sciences Informatics System

National Endowment of Humanities: Collaborative Research Grants

Streamlyne Update: New How-to-do Videos

Internal Competition: National Science Foundation

NSF Limited Submission and Internal Competition Through College/School Deans

Grant Program: Partnerships for Innovation (PFI)

Agency: National Science Foundation NSF 18-511

RFP Website: <https://www.nsf.gov/pubs/2018/nsf18511/nsf18511.htm>

Brief Description: The NSF Partnerships for Innovation (PFI) Program within the Division of Industrial Innovation and Partnerships (IIP) offers researchers the opportunity to transform new knowledge into societal benefits through translational research and technology development

efforts which catalyze partnerships to accelerate innovations that address significant societal needs.

PFI has six broad goals: (1) identifying and supporting Foundation-sponsored research and technologies that have the potential for accelerated commercialization; (2) supporting prior or current Foundation-sponsored researchers, institutions of higher education, and non-profit organizations that partner with an institution of higher education to undertake proof-of-concept work, including the development of technology prototypes that are derived from NSF-funded research and have potential market value; (3) promoting sustainable partnerships between Foundation-funded institutions, industry, and other organizations within academia and the private sector with the purpose of accelerating the transfer of technology; (4) developing multi-disciplinary innovation ecosystems which involve and are responsive to the specific needs of academia and industry; (5) catalyzing professional development activities, mentoring, and best practices in entrepreneurship and technology translation for faculty, students and researchers; and (6) expanding the participation of women and individuals from underrepresented groups in innovation, technology translation, and entrepreneurship.

This solicitation offers two broad tracks for proposals in pursuit of the six aforementioned goals.

The **Technology Translation (PFI-TT) track** offers an NSF-funded researcher the opportunity to advance his or her prior NSF-funded research results towards developing technological innovations with promising commercial potential and societal impact. Projects are supported to demonstrate proof-of-concept, prototype, or technology development and scale-up while exposing faculty and students (and engaging them in) in innovation and entrepreneurially-focused activities that could possibly lead to partnership opportunities, the creation of new intellectual property and technologically-driven commercialization outcomes that address societal needs. Potential pathways forward within the PFI-TT track could be broader collaborative activities and partnerships, technology licensing, technology spin-outs, and expanded entrepreneurial activity.

The **Research Partnerships (PFI-RP) track** provides an opportunity to support technology development activities through a multi-organization collaboration. NSF recognizes that interdisciplinary collaboration is often needed to achieve successful technology development. This proposal track supports a research consortium ecosystem focused on a clear project thrust. It allows for partnerships between academic researchers and a variety of third-party organizations (such as industry, non-academic research organizations, federal laboratories, public or non-profit technology transfer organizations, and/or other universities) to conduct applied research in highly collaborative, multidisciplinary teams, on problems typically beyond the reach of a single researcher. NSF currently supports numerous research consortia (e.g., Engineering Research Centers, Industry-University Cooperative Research Centers, Science and Technology Centers, Nanoscale Science and Engineering Centers, Materials Research Science and Engineering Centers, Centers for Chemical Innovation, and others). Such consortia could participate in PFI-RP proposals. The goal of the RP track is to catalyze robust and synergistic partnerships and collaborations between government, academia, and other public and private entities to drive and accelerate the translation of federally-funded fundamental research results into innovations that, through technology development and commercialization, will have a significant economic and societal impact.

WEBINARS: Webinars will be held to answer questions about the solicitation. Registration will be available on the NSF Division of Industrial Innovation and Partnerships website (<https://www.nsf.gov/div/index.jsp?div=IIP>). Potential proposers and their partners are encouraged to attend.

Awards: Standard Grants; Anticipated Funding Amount: \$16,750,000

Letter of Intent: Not Required

Submission Deadline: February 01, 2018

Limit on Number of Proposals per Organization: 2. An organization may submit no more than two (2) proposals to this solicitation. This eligibility constraint will be strictly enforced. In the event that an organization exceeds this limit, the first two proposals received will be accepted, and the remainder will be returned without review. An organization will not receive more than one (1) award from this solicitation.

Internal Competition Deadline to College Dean's Office: December 1, 2017: Please submit up to 5 pages pre-proposal to your respective Dean by December 1, 2017 in the following format. College level reviews will be conducted by Deans to forward recommendations for up to 2 proposals to the Office of Research by December 7, 2017. The final selection will be announced by December 10, 2017. The pre-proposal should include title of the project, list of key investigators and collaborators with affiliations, Summary of the project with sections on Intellectual Merit and Broader Impact, budget summary. Please also include NSF style biographical sketch that is not included in the 5-page pre-proposal limit. The pre-proposals will be reviewed using the criterion mentioned in the RFP.

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

Agency: National Science Foundation NSF 18-507

RFP Website: <https://www.nsf.gov/pubs/2018/nsf18507/nsf18507.htm>

Brief Description: The NSF Research Traineeship (NRT) program is designed to encourage the development and implementation of bold, new, and potentially transformative models for STEM graduate education training. The NRT program seeks proposals that explore ways for graduate students in research-based master's and doctoral degree programs to develop the skills, knowledge, and competencies needed to pursue a range of STEM careers.

The program is dedicated to effective training of STEM graduate students in high priority interdisciplinary research areas, through the use of a comprehensive traineeship model that is innovative, evidence-based, and aligned with changing workforce and research needs. For FY2018, proposals are requested in any interdisciplinary research theme of national priority, with special emphasis on two high priority areas: (1) Harnessing the Data Revolution (HDR) and (2) Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS). HDR is expected to continue as a priority research area for FY2019 and FY2020 competitions, along with a new priority area to be announced in 2018.

The NRT program addresses workforce development, emphasizing broad participation, and institutional capacity building needs in graduate education. Strategic collaborations with the private sector, non-governmental organizations (NGOs), government agencies, national laboratories, field stations, teaching and learning centers, informal science centers, and academic partners are encouraged. NRT especially welcomes proposals that will pair well with the efforts of NSF INCLUDES to develop STEM talent from all sectors and groups in our society (https://www.nsf.gov/news/special_reports/nsfincludes/index.jsp). Collaborations are encouraged between NRT proposals and existing NSF INCLUDES projects, provided the collaboration strengthens both projects.

Limited Number of Submission: 2: An eligible organization may participate in two proposals per competition. **Participation includes serving as a lead organization, non-lead organization, or subawardee on any proposal.** Organizations participating solely as evaluators on projects are excluded from this limitation. Proposals that exceed the institutional eligibility limit (beyond the first two submissions based on timestamp) will be returned without review

regardless of the institution's role (lead organization, non-lead collaborative, or subawardee) in the returned proposal.

Limit on Number of Proposals per PI or Co-PI: 1: An individual may serve as Lead Principal Investigator (PI) or Co-PI on only one proposal submitted to the NRT program per annual competition. Proposals that exceed the PI/Co-PI eligibility limit (beyond the first submission based on timestamp), will be returned without review regardless of the individual's role (PI or co-PI) in the returned proposal.

Awards Range: Standard Grant; **Anticipated Funding Amount:** \$36,100,000

Letter of Intent: Submission of Letters of Intent is required. Please see the full text of this solicitation for further information.

Submission Deadline:

- **Letter of Intent Due Date(s) (required)** (due by 5 p.m. submitter's local time):

November 27, 2017 - December 06, 2017

November 26, 2018 - December 06, 2018

November 25, 2019 - December 06, 2019

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

February 06, 2018

February 06, 2019

February 06, 2020

Contact: Laura B. Regassa, telephone: (703) 292-2343, email: lregassa@nsf.gov

- Tara L. Smith, telephone: (703) 292-7239, email: tsmith@nsf.gov

- Stephen Mulkey, telephone: (703) 292-8954, email: smulkey@nsf.gov

Internal Competition Deadline to College Dean's Office: November 15, 2017: Please submit a pre-proposal for internal competition in the following format to your Dean. Deans are requested to forward the pre-proposals with their recommendations to the Office of Research for institutional review by November 19, 2017. The pre-proposal should include:

Section 1. Letter of Intent (NSF Format): Submit a one-page LOI through FastLane during the open submission window with the following information:

- The name and departmental affiliation of the Principal Investigator (PI).
- The name(s) and departmental affiliation(s) of the Co-PI(s) and others composing the Core Participants (maximum 10).
- The names(s) of any other (non-lead) participating institutions or organizations. If the sole contribution of the partner is evaluation, then designate as "*Evaluation: institutional or organizational name*"; evaluators are exempt from institutional eligibility limits (see section IV). If there are partnering institutions, then the LOI MUST include the appropriate mandatory statement at the end of the project synopsis (see Project Synopsis below).
- Project Title: The title must begin with "NRT-HDR:" or "NRT-INFEWS:" for projects targeting the Harnessing the Data Revolution or Nexus of Food, Energy, and Water Systems research areas, respectively. Titles for projects addressing another interdisciplinary theme of national importance must begin with "NRT:". Any collaborative project with proposals from multiple institutions should begin with "Collaborative Research:". For example, a collaborative proposal in INFEWS would have a title beginning "Collaborative Research: NRT-INFEWS:"
- Project Synopsis (up to 2500 text characters including required organizational statement): Provide a brief summary of the vision and goals of the proposed training program, including a brief description of the interdisciplinary research theme, the main training elements, the integration of the research and training, and the need for the program. Add

the appropriate **required partner organization statement** at the end of the project synopsis. If the project has a partner institution that is not solely an evaluator, then the following text must appear at the end of the project synopsis: *"The participating institutions and organizations have agreed to partner on this NRT project. The NRT-eligible institutions have been informed by the lead organization that serving as a non-lead organization or subawardee on a proposal where the institution appears in the budget will count toward their institutional eligibility limit of two NRT proposals per annual competition."* NRT-eligible institutions are universities and colleges accredited in and having a campus located in the U.S. that award a research-based master's degree and/or a doctoral degree in a STEM discipline supported by the National Science Foundation. If the project has no NRT-eligible partner institutions or if the only NRT-eligible institution solely has an evaluation role (and has been designated as such, see participating institution instructions above), then the following text is required at the end of the project synopsis: *"There are no NRT-eligible institutions partnering on this project outside of an evaluation role."*

- **Target Disciplines:** List up to 5 primary disciplinary areas contributing to the research focus.

Section 2. Tentative Budget Summary: Please provide itemized budget for the entire duration

Section 3. Biographical Sketch of the PI (NSF Format)

New Update on NSF Major Research Instrumentation Grant (MRI) RFP NSF 18-513 on Submission Dates and Eligibility Requirement: Please see the Grant Opportunity Section

Recent Research Grant and Contract Awards

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

PI: Boris Kusid (PI)

Department: Chemical, Biological and Pharmaceutical Engineering

Grant/Contract Project Title: Kinetics of Electric Field-Driven Phase Transitions in Polarized Colloids

Funding Agency: NASA

Duration: 08/23/13-08/22/18

PI: Lazar Spasovic (PI)

Department: Intelligent Transportation System Research Center, Civil Engineering

Grant/Contract Project Title: NJDOT e-STIP Enhancements, Maintenance & Support

Funding Agency: NJDOT

Duration: 07/01/17-06/30/19

PI: Mengyan Li (PI) and Michel Boufadel (Co-PI)
Department: Chemistry and Environmental Sciences, and Center for Natural Resources Development and Protection
Grant/Contract Project Title: Analysis of 1,4-Dioxane in Microcosm Samples
Funding Agency: Langan Engineering and Environmental Services Inc.
Duration: 10/25/17-10/24/18

PI: Bryan Pfister (PI)
Department: Biomedical Engineering
Grant/Contract Project Title: Surrogate Prototyping and Experiments for Traumatic Brain Injury (TBI)
Funding Agency: Advanced Technology International (on behalf of DoD U.S. Army -ACC)
Duration: 10/31/17-01/31/19

In the News...

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

DOD Basic Research Budget: While authorizing an overall hike in the Pentagon's research, development, testing, and evaluation account, the FY 2018 National Defense Authorization Act that emerged from a [House-Senate conference committee](#) provides \$2.27 billion for basic research (6.1), just slightly below the current enacted level, and cuts \$270 million from 6.2 applied research, coming in at \$5.02 billion. These numbers represent a small increase over the administration's budget request for FY 2018. Actual appropriations await whatever end-of-year budget arrangement the House, Senate, and White House agree to - or not. More information is posted on the website <http://docs.house.gov/billsthisweek/20171113/HRPT-115-HR2810.pdf>

NSF Accepting Recommendations to the STEM Education Advisory Panel: On October 18, 2017, the National Science Foundation (NSF), along with the Department of Education (ED), the National Aeronautics and Space Administration (NASA), and the National Oceanic and Atmospheric Administration (NOAA) jointly established the **Science, Technology, Engineering, and Mathematics (STEM) Education Advisory Panel**. This panel was formed in response to the American Innovation and Competitiveness Act (AICA), which charges the Panel with the responsibility of advising the National Science and Technology Council's Committee on Science, Technology, Engineering, and Mathematics Education (CoSTEM), assessing CoSTEM's progress in carrying out responsibilities related to the America COMPETES Reauthorization Act, and helping to identify need or opportunity to update the Federal STEM Education 5-Year Strategic Plan. With the Panel formally established, we can now focus on identifying and appointing members who could potentially play a pivotal role guiding our nation's Federal STEM education efforts. As such, NSF, ED, NASA, and NOAA are currently requesting recommendations for membership. We welcome recommendations for highly qualified individuals to serve on the Panel. For more information on the recommendation process, please visit <https://nsf.gov/ehr/STEMEdAdvisory.jsp>.

Engineering For Civil Infrastructure: NSF's ECI program "represents a new and integrated vision for fundamental research to underpin transformative innovations for the built environment that

are resilient, economical, and adaptable to enhance national prosperity and societal benefits. In support of this vision, the ECI program replaces CMMI's Engineering for Natural Hazard (ENH), Geotechnical Engineering and Materials (GEM), and Structural and Architectural Engineering and Materials (SAEM) programs. ECI will also support research in construction engineering that is compatible with this vision." [Register for a Dec. 6 webinar.](#)

BRAIN Data Crunch: A solicitation from the National Institutes of Health seeks "new theories, computational models, and statistical tools to derive understanding of brain function from complex neuroscience data. Proposed tools could include the creation of new theories, ideas, and conceptual frameworks to organize/unify data and infer general principles of brain function; new computational models to develop testable hypotheses and design/drive experiments; and new mathematical and statistical methods to support or refute a stated hypothesis about brain function, and/or assist in detecting dynamical features and patterns in complex brain data." See other recent funding opportunity on the website <https://grants.nih.gov/grants/guide/rfa-files/RFA-EB-17-005.html>

Future OF NSF Engineering Research Centers (ERCs): How to implement the National Academy of Engineering's [recommendations](#) for National Science Foundation-backed Engineering Research Centers is generating more questions than answers. On building the centers around grand challenges, one option proposed by NAE, members of NSF's Engineering Directorate [Advisory Committee](#) asked: Which ones – the NAE's? The United Nations' Sustainable Development Goals? NSF's? According to our partners at Lewis-Burke Associates, the committee debated a number of report recommendations, including whether ERC teams should be self-formed by researchers and industry or be pulled together by NSF. More discussion is expected next week when center reps assemble for their biennial meeting. NSF has time to digest various views: It won't issue its next ERC request for proposals until September, 2018. Full report is posted on the website <https://www.nap.edu/catalog/24767/a-new-vision-for-center-based-engineering-research>

Webinar and Events

Event: NSF International Research Experiences for Students (IRES) Q&A Webinar

Sponsor: NSF

When: November 30, 2017 from 2:00 PM to 3.30 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=243664&org=NSF

Brief Description: International Research Experiences for Students (IRES) Program Directors Dr. Fahmida Chowdhury and Dr. Maija Kukla will be available for answering questions from anyone interested in considering IRES proposal submissions.

Please note that this is a Q&A webinar – there will be no program presentation. Interested parties should read the solicitation to learn about the program, and ask questions on issues that may need clarification or further explanations. IRES Solicitation NSF 18-505 is available at https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12831

To join the webinar: To join the webinar, copy the URL into your browser or click on it to register <https://nsf.webex.com/nsf/j.php?MTID=mf24de1ad2b0ca73070c5c604f55c8c2a>

- Participant password: IRES2018!a
- Audio only participation is available via phone by dialing toll number 1-415-655-0002 and entering access code/meeting number: 749 241 010

- Note: To view real-time captions, open a separate browser page and go to <http://www.fedrcc.us/fedrcc/> The event confirmation number is 3448979.
- If you need reasonable/accessibility accommodations to participate, please contact us 10 days in advance of the event date for coordination.
- Participants can call Cisco WebEx Technical Support at -866-229-3239 for help with joining WebEx events.

Event: NSF Engineering for Civil Infrastructure Webinar

Sponsor: NSF

When: December 6, 2017 from 2:00 PM to 4.00 PM

Website: https://www.nsf.gov/events/event_summ.jsp?cntn_id=243644&org=NSF

Brief Description: This informational webinar will provide an overview presentation and answers to questions on the new National Science Foundation (NSF) program entitled “[Engineering for Civil Infrastructure \(ECI\)](#),” (NSF 17-073Y). The ECI program is a core research program within NSF’s Directorate for Engineering, Division of Civil, Mechanical and Manufacturing Innovation (CMMI). The ECI program represents a new and integrated vision for fundamental research to underpin transformative innovations for the built environment that are resilient, economical, and adaptable to enhance national prosperity and societal benefits. In support of this vision, the ECI program replaces CMMI’s Engineering for Natural Hazard (ENH), Geotechnical Engineering and Materials (GEM), and Structural and Architectural Engineering and Materials (SAEM) programs. ECI will also support research in construction engineering that is compatible with this vision.

To join the webinar: Registration is required for this webinar; interested participants must [register via WebEx](#). **The registration deadline is November 30, 2017.**

Grant Opportunities

National Science Foundation

Grant Program: NSF Major Research Instrumentation Program: (MRI)

Agency: National Science Foundation NSF 18-513

RFP Website: <https://www.nsf.gov/pubs/2018/nsf18513/nsf18513.htm>

Brief Description: The Major Research Instrumentation (MRI) Program serves to increase access to multi-user scientific and engineering instrumentation for research and research training in our Nation’s institutions of higher education and not-for-profit scientific/engineering research organizations. An MRI award supports the acquisition or development of a multi-user research instrument that is, in general, too costly and/or not appropriate for support through other NSF programs.

MRI provides support to acquire critical research instrumentation without which advances in fundamental science and engineering research may not otherwise occur. MRI also provides support to develop next-generation research instruments that open new opportunities to advance the frontiers in science and engineering research. Additionally, an MRI award is expected to enhance research training of students who will become the next generation of instrument users, designers and builders.

An MRI proposal may request up to \$4 million for either acquisition or development of a research instrument. Beginning with the FY 2018 competition, each performing organization may submit

in revised "Tracks" as defined below, with no more than two submissions in Track 1 and no more than one submission in Track 2.

- Track 1: Track 1 MRI proposals are those that request funds from NSF greater than or equal to \$100,000¹ and less than \$1,000,000.
- Track 2: Track 2 MRI proposals are those that request funds from NSF greater than or equal to \$1,000,000 up to and including \$4,000,000.

Consistent with the America COMPETES Act of 2007 (Public Law 110-69), cost sharing of precisely 30% of the total project cost is required for Ph.D.-granting institutions of higher education and for non-degree-granting organizations. Non-Ph.D.-granting institutions of higher education are exempt from the cost-sharing requirement and cannot include it. National Science Board policy prohibits voluntary committed cost sharing.

Please see the solicitation text for organizational definitions used by the MRI program.

The MRI Program especially seeks broad representation of PIs in its award portfolio, including women, underrepresented minorities and persons with disabilities. Since demographic diversity may be greater among early-career researchers the MRI program also encourages proposals with early-career PIs and proposals that benefit early-career researchers.

Limited Number of Submission: Three (3) as described below. Potential PIs are advised to contact their institutional office of research regarding processes used to select proposals for submission.

The MRI program requires that an MRI-eligible organization may, as a performing organization, submit or be included as a significantly funded³ subawardee in no more than three MRI proposals. Beginning with this competition, each performing organization is now limited to a maximum of three proposals in revised "Tracks" as defined below, with no more than two submissions in Track 1 and no more than one submission in Track 2. Any MRI proposal may request support for either the acquisition or development of a research instrument. Within their submission limit, NSF strongly encourages organizations to submit proposals for innovative development projects.

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- Track 1: Track 1 MRI proposals are those that request funds from NSF greater than or equal to \$100,000¹ and less than \$1,000,000.
- Track 2: Track 2 MRI proposals are those that request funds from NSF greater than or equal to \$1,000,000 up to and including \$4,000,000.

Note: The 30% cost-sharing requirement applies to only the portion of the total project cost budgeted to non-exempt organizations, including those participating through subawards. When required, cost-sharing must be precisely 30%. Cost sharing is required for Ph.D.-granting institutions of higher education and for non-degree-granting organizations. Non-Ph.D.-granting institutions of higher education are exempt from cost-sharing and cannot provide it. National Science Board policy is that voluntary committed cost sharing is prohibited. See section V.B. for specific information on cost-sharing calculations and the solicitation text for definitions of organizational types used for the MRI program.

Awards Range: \$100,000-\$4 million

Letter of Intent: Not Required

Submission Deadline: January 29, 2018 - February 05, 2018

Internal Competition Deadline to College Dean's Office: November 15, 2017: Please submit up to 5 pages pre-proposal white paper to your respective Dean by November 15, 2017 (extended; please see page 4 of the Newsletter issue ORN-37 for details about the internal submission.

Grant Program: Partnerships for Innovation (PFI)

Agency: National Science Foundation NSF 18-511

RFP Website: <https://www.nsf.gov/pubs/2018/nsf18511/nsf18511.htm>

Brief Description: The NSF Partnerships for Innovation (PFI) Program within the Division of Industrial Innovation and Partnerships (IIP) offers researchers the opportunity to transform new knowledge into societal benefits through translational research and technology development efforts which catalyze partnerships to accelerate innovations that address significant societal needs.

PFI has six broad goals: (1) identifying and supporting Foundation-sponsored research and technologies that have the potential for accelerated commercialization; (2) supporting prior or current Foundation-sponsored researchers, institutions of higher education, and non-profit organizations that partner with an institution of higher education to undertake proof-of-concept work, including the development of technology prototypes that are derived from NSF-funded research and have potential market value; (3) promoting sustainable partnerships between Foundation-funded institutions, industry, and other organizations within academia and the private sector with the purpose of accelerating the transfer of technology; (4) developing multi-disciplinary innovation ecosystems which involve and are responsive to the specific needs of academia and industry; (5) catalyzing professional development activities, mentoring, and best practices in entrepreneurship and technology translation for faculty, students and researchers; and (6) expanding the participation of women and individuals from underrepresented groups in innovation, technology translation, and entrepreneurship.

This solicitation offers two broad tracks for proposals in pursuit of the six aforementioned goals.

The **Technology Translation (PFI-TT) track** offers an NSF-funded researcher the opportunity to advance his or her prior NSF-funded research results towards developing technological innovations with promising commercial potential and societal impact. Projects are supported to demonstrate proof-of-concept, prototype, or technology development and scale-up while exposing faculty and students (and engaging them in) in innovation and entrepreneurially-focused activities that could possibly lead to partnership opportunities, the creation of new intellectual property and technologically-driven commercialization outcomes that address societal needs. Potential pathways forward within the PFI-TT track could be broader collaborative activities and partnerships, technology licensing, technology spin-outs, and expanded entrepreneurial activity.

The **Research Partnerships (PFI-RP) track** provides an opportunity to support technology development activities through a multi-organization collaboration. NSF recognizes that interdisciplinary collaboration is often needed to achieve successful technology development. This proposal track supports a research consortium ecosystem focused on a clear project thrust. It allows for partnerships between academic researchers and a variety of third-party organizations (such as industry, non-academic research organizations, federal laboratories, public or non-profit technology transfer organizations, and/or other universities) to conduct applied research in highly collaborative, multidisciplinary teams, on problems typically beyond the reach of a single researcher. NSF currently supports numerous research consortia (e.g., Engineering Research Centers, Industry-University Cooperative Research Centers, Science and Technology Centers, Nanoscale Science and Engineering Centers, Materials Research Science and Engineering Centers, Centers for Chemical Innovation, and others). Such consortia could participate in PFI-RP proposals. The goal of the RP track is to catalyze robust and synergistic partnerships and collaborations between government, academia, and other public and private entities to drive and accelerate the translation of federally-funded fundamental research results into innovations that,

through technology development and commercialization, will have a significant economic and societal impact.

WEBINARS: Webinars will be held to answer questions about the solicitation. Registration will be available on the NSF Division of Industrial Innovation and Partnerships website (<https://www.nsf.gov/div/index.jsp?div=IIP>). Potential proposers and their partners are encouraged to attend.

Awards: Standard Grants; **Anticipated Funding Amount:** \$16,750,000

Letter of Intent: Not Required

Submission Deadline: February 01, 2018

Limit on Number of Proposals per Organization: 2. An organization may submit no more than two (2) proposals to this solicitation. This eligibility constraint will be strictly enforced. In the event that an organization exceeds this limit, the first two proposals received will be accepted, and the remainder will be returned without review. An organization will not receive more than one (1) award from this solicitation.

Internal Competition Deadline to College Dean's Office: December 1, 2017: Please submit up to 5 pages pre-proposal to your respective Dean by December 1, 2017 in the following format. College level reviews will be conducted by Deans to forward recommendations for up to 2 proposals to the Office of Research by December 7, 2017. The final selection will be announced by December 10, 2017. The pre-proposal should include title of the project, list of key investigators and collaborators with affiliations, Summary of the project with sections on Intellectual Merit and Broader Impact, budget summary. Please also include NSF style biographical sketch that is not included in the 5-page pre-proposal limit. The pre-proposals will be reviewed using the criterion mentioned in the RFP.

Contacts: Prakash G. Balan, telephone: (703) 292-5341, email: pbalan@nsf.gov

- Jesus V. Soriano, telephone: (703) 292-7795, email: jsoriano@nsf.gov

Grant Program: Research Coordination Networks in Undergraduate Biology Education (RCN-UBE)

Agency: National Science Foundation NSF 18-510

RFP Website: <https://www.nsf.gov/pubs/2018/nsf18510/nsf18510.htm>

Brief Description: The goal of the RCN program is to advance a field or create new directions in research or education by supporting groups of investigators to communicate and coordinate their research, training, and educational activities across disciplinary, organizational, geographic, and international boundaries. The RCN-UBE program originated as a unique RCN track to “catalyze positive changes in biology undergraduate education” ([NSF 08-035](#)) and is now supported by the collaborative efforts of the Directorate for Biological Sciences (BIO) and the Directorate for Education and Human Resources (EHR). It has been responsive to the national movement to revolutionize undergraduate learning and teaching in the biological sciences as described in the “Vision and Change in Undergraduate Biology Education” report. The RCN-UBE program seeks to improve undergraduate biology in different areas by leveraging the power of a collaborative network. The theme or focus of an RCN-UBE proposal can be on any topic likely to advance the goal of enhancing undergraduate biology education. Collectively, the program has contributed to developing and disseminating educational research resources and modules, to forging of new collaborations, and to sharing of best practices and ideas for scalability and sustainability of activities. These efforts have involved a large cadre of faculty, students, and other stakeholders. Proposed networking activities directed to the RCN-UBE program should focus on a theme to give coherence to the collaboration.

In accord with other RCNs, the RCN-UBE provides opportunities to foster new collaborations (including international partnerships), to address interdisciplinary topics, to explore innovative ideas for implementing novel networking strategies, to explore collaborative technologies, and to develop community standards. RCN-UBE awards do not support existing networks or the activities of established collaborations. RCN awards do not support primary research.

Note: Because it addresses undergraduate biology education, the RCN-UBE track is offered in alignment with the NSF-wide undergraduate STEM education initiative, Improving Undergraduate STEM Education (IUSE). More information about IUSE can be found in the Program Description section of this solicitation. Depending on the scope and nature of the project, investigators should consider applying to IUSE or RCN-UBE.

Awards: Standard Grants; **Anticipated Funding Amount:** \$2,500,000

Letter of Intent: Not Required

Submission Deadline: January 30, 2018

Contacts: William J. Hoese, telephone: (703) 292-8638, email: whoese@nsf.gov

- Charles Sullivan, telephone: (703) 292-2260, email: csulliva@nsf.gov
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Grant Program: Campus Cyberinfrastructure (CC*)

Agency: National Science Foundation NSF 18-508

RFP Website: <https://www.nsf.gov/pubs/2018/nsf18508/nsf18508.htm>

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

CC* awards will be supported in four program areas:

1. Data Driven Networking Infrastructure for the Campus and Researcher awards will be supported at up to \$500,000 total for up to 2 years;
2. Network Design and Implementation for Small Institutions awards will be supported at up to \$750,000 total for up to 2 years;
3. Network Integration and Applied Innovation awards will be supported at up to \$1,000,000 total for up to 2 years; and
4. Network Performance Engineering and Outreach awards will be supported at up to \$3,500,000 total for up to 4 years.

Awards: Standard Grants; **Anticipated Funding Amount:** \$17,000,000

Funding will span the following four areas:

1. Data Driven Networking Infrastructure for the Campus and Researcher awards will be supported at up to \$500,000 total for up to 2 years;
2. Network Design and Implementation for Small Institutions awards will be supported at up to \$750,000 total for up to 2 years;
3. Network Integration and Applied Innovation awards will be supported at up to \$1,000,000 total for up to 2 years; and
4. Network Performance Engineering and Outreach awards will be supported at up to \$3,500,000 total for up to 4 years.

Letter of Intent: Not Required

Submission Deadline: January 30, 2018

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

- Anita Nikolich, OAC Program Director, telephone: (703) 292-4551, email: anikolic@nsf.gov
 - Jack Brassil, CNS Program Director, telephone: (703) 292-8950, email: jbrassil@nsf.gov
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Grant Program: NSF National Science Foundation Research Traineeship (NRT) Program

Agency: National Science Foundation NSF 18-507

RFP Website: <https://www.nsf.gov/pubs/2018/nsf18507/nsf18507.htm>

Brief Description: The NSF Research Traineeship (NRT) program is designed to encourage the development and implementation of bold, new, and potentially transformative models for STEM graduate education training. The NRT program seeks proposals that explore ways for graduate students in research-based master's and doctoral degree programs to develop the skills, knowledge, and competencies needed to pursue a range of STEM careers.

The program is dedicated to effective training of STEM graduate students in high priority interdisciplinary research areas, through the use of a comprehensive traineeship model that is innovative, evidence-based, and aligned with changing workforce and research needs. For FY2018, proposals are requested in any interdisciplinary research theme of national priority, with special emphasis on two high priority areas: (1) Harnessing the Data Revolution (HDR) and (2) Innovations at the Nexus of Food, Energy, and Water Systems (INFEWS). HDR is expected to continue as a priority research area for FY2019 and FY2020 competitions, along with a new priority area to be announced in 2018.

The NRT program addresses workforce development, emphasizing broad participation, and institutional capacity building needs in graduate education. Strategic collaborations with the private sector, non-governmental organizations (NGOs), government agencies, national laboratories, field stations, teaching and learning centers, informal science centers, and academic partners are encouraged. NRT especially welcomes proposals that will pair well with the efforts of NSF INCLUDES to develop STEM talent from all sectors and groups in our society (https://www.nsf.gov/news/special_reports/nsfincludes/index.jsp). Collaborations are encouraged between NRT proposals and existing NSF INCLUDES projects, provided the collaboration strengthens both projects.

Limited Number of Submission: 2: An eligible organization may participate in two proposals per competition. **Participation includes serving as a lead organization, non-lead organization, or subawardee on any proposal.** Organizations participating solely as evaluators on projects are excluded from this limitation. Proposals that exceed the institutional eligibility limit (beyond the first two submissions based on timestamp) will be returned without review regardless of the institution's role (lead organization, non-lead collaborative, or subawardee) in the returned proposal.

Limit on Number of Proposals per PI or Co-PI: 1: An individual may serve as Lead Principal Investigator (PI) or Co-PI on only one proposal submitted to the NRT program per annual competition. Proposals that exceed the PI/Co-PI eligibility limit (beyond the first submission based on timestamp), will be returned without review regardless of the individual's role (PI or co-PI) in the returned proposal.

Awards Range: Standard Grant; **Anticipated Funding Amount:** \$36,100,000

Letter of Intent: Submission of Letters of Intent is required. Please see the full text of this solicitation for further information.

Submission Deadline: Letter of Intent Due Date(s) (required) (due by 5 p.m. submitter's local time): November 27, 2017 - December 06, 2017

- **Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time): February 06, 2018

Contact: Laura B. Regassa, telephone: (703) 292-2343, email: lregassa@nsf.gov

- Tara L. Smith, telephone: (703) 292-7239, email: tsmith@nsf.gov
- Stephen Mulkey, telephone: (703) 292-8954, email: smulkey@nsf.gov

Internal Competition Deadline to College Dean's Office: November 15, 2017: Please see above section for details.

Grant Program: Enabling Discovery through GENomic Tools (EDGE)

Agency: National Science Foundation NSF 18-506

RFP Website: <https://www.nsf.gov/pubs/2018/nsf18506/nsf18506.htm>

Brief Description: The Division of Integrative Organismal Systems (IOS) continues to support the Enabling Discovery through GENomic Tools (EDGE) program, previously a component of the IOS Core Programs solicitation ([NSF 16-505](#)). EDGE is designed to provide support for research addressing current impediments to research progress in organismal biology. In particular, the ability to directly test gene function is essential to improve understanding of the genomes-to-phenomes relationship, an area relevant to Understanding the Rules of Life, one of 10 Big Ideas for future NSF investment (https://www.nsf.gov/about/congress/reports/nsf_big_ideas.pdf). EDGE projects should focus on development of functional genomic tools, approaches, and associated infrastructure to enable direct tests of hypotheses about gene function in diverse organisms for which such tools and infrastructure are presently unavailable.

EDGE proposals must include training and rapid dissemination plans enabling larger communities of investigators to utilize the newly-developed tools, thereby catalyzing an increase in the capacity of research communities to test cause-and-effect hypotheses about genes and phenotypes in organisms for which such tools and infrastructure are presently lacking.

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

Letter of Intent: Not Required

Proposal Submission Due Date: February 01, 2018

Contacts: Michelle Elekonich, telephone: (703) 292-7202, email: melekoni@nsf.gov

- Diane J. Okamuro, telephone: (703) 292-8420, email: dokamuro@nsf.gov
 - Edda Thiels, telephone: (703) 292-8421, email: ethiels@nsf.gov
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Grant Program: International Research Experiences for Students (IRES)

Agency: National Science Foundation NSF 18-505

RFP Website: <https://www.nsf.gov/pubs/2018/nsf18505/nsf18505.htm>

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

The overarching, long-term goal of the IRES program is to enhance U.S. leadership in research and education and to strengthen economic competitiveness through training the next generation of research leaders.

This solicitation features three mechanisms; proposers are required to select one of the following tracks to submit their proposal.

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

partnerships and coalitions to develop and evaluate innovative models for high-impact, large-scale international research and professional development experiences for graduate students, as individuals or groups.

1. **IRES - Track I: *IRES Sites (IS)*** projects engage a group of undergraduate and/or graduate students in active high quality collaborative research at an international site with mentorship from researchers at a host lab. IRES Sites must be organized around a coherent intellectual theme that may involve a single discipline or multiple disciplines funded by NSF.
2. **IRES - Track II: *Advanced Studies Institutes (ASI)*** are intensive short courses with related activities that engage advanced graduate students in active learning and research at the frontiers of knowledge. ASIs typically range in length from ten to twenty-one days and must be held outside the United States. ASIs must have a compelling rationale for their international location and should involve distinguished active researchers in the target field from the U.S. and abroad. ASIs should enable students to develop skills and broaden professional networks, leveraging international participation and complementary resources (expertise, facilities, data, field site, etc.) for mutual benefit.
3. **IRES - Track III: *New Concepts in International Graduate Experience (IGE)*** projects propose, implement, and evaluate creative ideas for catalyzing the development of globally engaged U.S. scientists and engineers at the graduate student level. The IGE IRES track invites professional societies and organizations in the U.S. directly associated with science and engineering education or research activities to propose innovative large-scale programs to provide high-quality international research and/or research-related professional development experiences for U.S. graduate students as individuals or groups. The proposed experiences should enhance transferable skills and expand professional networks. Graduate students recruited from a broad, diverse applicant pool should travel to non-U.S. locations for periods of several weeks to a semester for immersive experiences under the mentorship of appropriate collaborators in the U.S. and foreign locations. The proposed international professional development model may focus on research or research-related activities in any NSF-funded area(s). Proposals that utilize, leverage and potentially expand existing global networks and infrastructure are encouraged.

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

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

Awards: Standard Grant; **Anticipated Funding Amount:** \$11,000,000

Letter of Intent: Not Required

Proposal Submission Due Date:

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

January 30, 2018

Track - I: IRES Sites

February 06, 2018

Track-II: Advanced Studies Institutes

September 11, 2018

Second Tuesday in September, Annually Thereafter

Track - I: IRES Sites

September 18, 2018

Third Tuesday in September, Annually Thereafter

Track-II: Advanced Studies Institutes

- **Full Proposal Target Date(s):**

February 13, 2018

Track - III: New Concepts in International Graduate Experience

September 25, 2018

Fourth Tuesday in September, Annually Thereafter

Track - III: New Concepts in International Graduate Experience

Contacts: Maija M. Kukla, telephone: (703) 292-4940, email: mkukla@nsf.gov

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

- Simona L. Gilbert, W 17162, telephone: (703) 292-7216, email: sgilbert@nsf.gov

National Institutes of Health

Grant Program: Bioengineering Research Grants (BRG) (R01 Clinical Trial Optional)

Agency: National Institutes of Health PAR-18-206

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-18-206.html>

Brief Description: Many major biomedical research problems are best addressed with a multidisciplinary approach that bridges the life and physical sciences. Principles and techniques in quantitative sciences such as physics, mathematics, chemistry, computer sciences, and engineering are increasingly applied to good effect in biomedical research. Bioengineering approaches integrate principles from diverse technical and biomedical fields, and the resulting multi-disciplinary research provides new understanding, innovative technologies, and new products that improve basic knowledge, human health, and quality of life. This FOA seeks to encourage collaborations of quantitative and physical scientists with biomedical researchers to catalyze the development of innovative bioengineering approaches to the solution of important problems in biomedical research, clinical investigations, and medical practice.

Significant projects may include, but are not limited to: validation and translation of promising tools for prevention, monitoring or intervention; development of quantitative, predictive models of complex biological systems; integration and optimization of technologies that significantly increase sensitivity, specificity, positive predictive value, negative predictive value, efficiency, or throughput of measurements to address unsolved biological or medical questions; or engineering and testing of delivery systems, tissues, therapeutics, implants, and prosthetics that may improve treatment and healthcare.

Innovation in this biomedical engineering FOA has a broad definition that includes development of new methods, ideas, or tools, integration of existing components into new combinations that deliver greater capabilities, new efficiencies, and/or greater effects. Overall impact of these advances may include reducing disparities in care, promoting wellness and independent living, increasing access to and utility of technologies to improve quality of life, reducing cost and complexity of procedures, and increasing throughput, sensitivity and specificity of diagnostic tests.

A project should clearly serve the mission of one or more of the NIH Institutes or Centers participating in this FOA. Investigators are encouraged to contact the designated [Scientific/Research contacts](#) for individual institute focus areas that will be supported. Applicants who seek to establish proof-of-concept are encouraged to respond to the Exploratory Bioengineering Research Grant (EBRG) FOA [<https://grants.nih.gov/grants/guide/pa-files/PA-1-286.html>]. Large team projects with a specific goal that can be addressed in 5-10 years are encouraged to respond to the Bioengineering Research Partnership (BRP) FOA [<https://grants.nih.gov/grants/guide/pa-files/PAR-18-208.html>].

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

Letter of Intent: Not Required

Deadline: [Standard dates](#) apply, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on these dates.

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.

Grant Program: Translational Neural Devices (U44 Clinical Trial Required)

Agency: National Institutes of Health RFA-NS-18-012

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-NS-18-012.html>

Brief Description: This funding opportunity will utilize a Small Business Innovation Research (SBIR) U44 cooperative agreement to support the translation of devices on the verge of clinical trial. The translational device activities, including translational bench/*in vitro*, and small and large animal studies to support regulatory approval of a small clinical trial, are expected to lead to submission of an Investigational Device Exemption (IDE) to the U.S. Food and Drug Administration (FDA) or Institutional Review Board (IRB) application for a Non-Significant Risk (NSR) study. This cooperative agreement will also support the subsequent small clinical trial (e.g., Early Feasibility Study -

<https://www.fda.gov/downloads/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm279103>, small clinical trial or experience to support a marketing application, or small clinical trial to inform final device design). It is expected the immediate next steps following completion of the small clinical trial supported under this cooperative agreement will be:

- a marketing application if only a small clinical trial or experience is needed to demonstrate the device is safe and effective;
- a larger clinical trial that will lead to a marketing application; or
- device design decisions made based on the information and data collected.

As applicants must have comprehensive supporting data, innovation and impact will in part be judged on presenting a credible path towards U.S. regulatory submission/IRB approval at the end of the SBIR Phase I project period, and on the potential to advance the care of patients by addressing an unmet clinical need.

All projects will be Fast-Track applications and have two phases. SBIR Phase I will support translational device activities leading to submission of an IDE to the FDA, or an IRB application for an NSR study. The duration of SBIR Phase I will depend on the maturity of the project at entry. Only those SBIR Phase I projects that have met specific criteria (see below) will be eligible for transition to SBIR Phase II after NIH administrative review. SBIR Phase II will support a small clinical trial, as described above.

The SBIR U44 cooperative agreement mechanism is milestone-driven and involves significant input from NIH program staff regarding project and milestone planning, monitoring of research progress, and go/no-go decision-making. NIH staff may also provide assistance to academic investigators in familiarizing them with the device development process and the criteria needed to advance therapeutic and diagnostic leads to the clinic. The expectations of the program are in line with those of industry in regards to advancing devices through the developmental pipeline. As such, an inherent risk of attrition is possible within this program.

Awards: Applicants should rarely exceed \$1,000,000 in total costs per year during the SBIR Phase I and \$1,500,000 in total costs per year during the SBIR Phase II.

Letter of Intent: 30 days prior to the receipt date

Deadline: February 21, 2018; June 21, 2018; October 22, 2018; February 21, 2019; June 21, 2019; October 21, 2019; February 21, 2020; June 22, 2020; and October 21, 2020 , by 5:00 PM local time of applicant organization.

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

Grant Program: Bioengineering Research Partnerships (U01 Clinical Trial Optional)

Agency: National Institutes of Health PAR-18-208

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-18-208.html>

Brief Description: The primary objective of this FOA is to encourage basic, applied, or clinical bioengineering solutions to unmet needs in biological or biomedical research and clinical practice that can enhance the capabilities of end-users to improve our understanding of life science processes or the practice of medicine within 5 – 10 years. A BRP may bring together new or existing technologies to form creative solutions that have the potential to be widely adopted and improve human health. To deliver practical solutions within this timeframe, applicants are encouraged to use a design-directed research strategy with well-defined end goal(s) and intermediate, quantitative milestones. Goals may include, but are not limited to, establishing proof of concept, pre-commercial prototype production, licensure, release of software packages, designs or models, demonstrating the biological effectiveness of engineered constructs, elucidating the structural and functional relevance of biomolecules or tissues, first-in-human testing, or starting the investigational device exemption or investigational new drug process.

A second key objective is to encourage collaborations and partnerships among allied quantitative and biomedical disciplines. The value of strategic partnerships is well supported by the literature of both economics and science and technology policy, which documents greater success at research and development by groups that work in strategic alliances, often involving multiple institutions, compared to those working separately. In addition to the benefits to be derived from the research, the collaborations and partnerships can create opportunities for trans-disciplinary communication and training of a new generation of scientists who are capable of interacting across traditional technical boundaries. A Partnership typically consists of two to six partners from multiple institutions or multiple departments from the same institution, with each partner bringing critical strengths to the project. The team may require experience in technology development, appropriate model systems for validation, human factors research, regulatory approval, project management or commercialization to realize and disseminate a robust solution. Potential beneficiaries should be active participants in the partnership from the beginning, to provide assurance that proposed solutions will meet community needs. Partnerships with companies that have relevant expertise or may eventually engage in future commercialization or with organizations that can test and disseminate technologies are encouraged under the BRP program. Each PD/PI or collaborator is expected to provide substantive contributions to the intellectual or technical aspects of the project, and should be clearly differentiated from team members who supply necessary but not unique components or services.

Scope of the Program

Funding may be requested to develop, adapt, enhance, optimize, validate, or otherwise accelerate the adoption of promising bioengineering solutions, but not for support of commercial production or later stage (Phase II or Phase III) clinical trials. The approach used does not necessarily need to be extremely novel and may be based on integrating or scaling up existing technologies in untested ways. Overall impact of these new capabilities may include but is not limited to reducing

disparities in care, providing new insight into basic biological processes, promoting wellness and independent living, engineering integrated biological and physical systems, increasing access to and usability of technologies to improve quality of life, reducing cost and complexity of high-demand tools, or increasing throughput sensitivity and specificity of laboratory and clinical studies. Innovation for this program is based on a coherent plan to deliver emerging or new capabilities to end users, including through combination of proven approaches and recognizing their resources, workflow, and skills. Developing a technology is expected to require innovation, but novelty in and of itself is not a requirement. For this FOA, it is innovative to deliver a new capability to solve an unmet need. Innovation in this case is heightened by a technology that can be easily adopted into routine practice and will give users, for example biomedical researchers, healthcare professionals, or citizens, new understanding, or will change health care practice.

Projects must clearly serve the mission of one or more of the NIH Institutes or Centers (ICs) participating in this FOA. Investigators are strongly encouraged to contact the Scientific/Research contacts identified in this FOA for individual IC policies, as well as feedback on the scope and relevance of the proposed project and guidance on the development of appropriate goals and milestones. Those investigators seeking to establish proof of concept are encouraged to respond to the EBRG FOA (PA-18-286). Investigators proposing smaller team projects, tackling problems that cannot be addressed within 5 – 10 years, or that have open-ended aims, are encouraged to respond to the BRG FOA (PAR-18-206).

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

Letter of Intent: Not Required

Deadline: May 8, 2018, September 13, 2018, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on these dates.

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.

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

Agency: National Institutes of Health RFA-MH-18-510

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-MH-18-510.html>

Brief Description: The Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative is aimed at revolutionizing our understanding of the human brain. By accelerating the development and application of innovative technologies, researchers will be able to produce a new dynamic picture of the brain that, for the first time, will show how individual cells and complex neural circuits interact in both time and space. It is expected that the application of these new tools and technologies will ultimately lead to new ways to treat and prevent brain disorders.

NIH is one of several federal agencies involved in the BRAIN Initiative. Planning for the NIH component of the BRAIN initiative is guided by the long-term scientific plan, "[BRAIN 2025: A Scientific Vision](#)," which details seven high-priority research areas and calls for a sustained federal commitment of \$4.5 billion over 12 years. This FOA and other FOAs issued in Fiscal Year 2018 are based on careful consideration by the NIH of the recommendations of the BRAIN 2025 Report, and input from the NIH BRAIN Multi-Council Working Group. Videocasts of the NIH BRAIN Multi-Council Working Group are available at <http://www.braininitiative.nih.gov/about/mcwg.htm>.

Educational goals for the NIH component of the BRAIN Initiative (see [BRAIN 2025: A Scientific Vision](#)) include acquisition of quantitative skills, the appropriate use and integration of newly developed tools, technologies and methods developed under the BRAIN Initiative, and consideration of the ethical implications of neuroscience research.

The BRAIN 2025 Report notes that individuals should obtain robust grounding in quantitative reasoning, principles, and techniques during their training. A special focus is training in quantitative neuroscience, i.e. theory and statistics for biologists, and exposing physicists, engineers and statisticians to experimental neuroscience. The BRAIN 2025 Report strongly encourages scientists to cross traditional areas of expertise to conduct interdisciplinary research, and acknowledges the need to attract investigators and faculty recruits to neuroscience from quantitative disciplines, e.g., statistics, computer science, physics, mathematics, and engineering.

The BRAIN 2025 Report emphasizes the need to consider the ethical implications of neuroscience research. In human neuroscience research, unique ethical issues are arising because new neurotechnologies are being employed that affect the human brain. In addition to grounding all neuroscience research training in consideration of ethical issues, it is necessary to invest in training individuals who will be the next generation of leaders in neuroethics research. For this reason, this FOA encourages applications from individuals interested in obtaining postdoctoral training on the ethical implications of recent advancements in neurotechnology and brain science that are relevant to the BRAIN initiative (see BRAIN Initiative [RFA MH-18-500](#)).

Awards: Award budgets are composed of stipends, tuition and fees, and institutional allowance. NIH will contribute to the combined cost of tuition and fees at the rate in place at the time of award. See <https://researchtraining.nih.gov/resources/policy-notice>

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

Deadline: March 15, 2018; December 7, 2018; August 7, 2019; April 7, 2020, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on these dates

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

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

Grant Program: NIMH Exploratory/Developmental Research Grant (R21 Clinical Trial Not Allowed)

Agency: National Institutes of Health PA-18-350

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PA-18-350.html>

Brief Description: The NIMH Exploratory/Developmental Grant program supports exploratory and high-risk research projects that fall within the NIMH mission by providing support for the early and conceptual stages of these projects. These studies may involve considerable risk but may lead to a breakthrough or the development of novel techniques, agents, methods, measures, models, strategies, or to the generation of pilot or feasibility data. The preliminary work from these studies could lead to a major impact on biomedical, behavioral, or clinical mental health research, or on the delivery of mental health care. The evolution and vitality of the biomedical, behavioral, clinical and implementation sciences require a constant infusion of new ideas, techniques, and perspectives. These may differ substantially from current thinking or practice and may not yet be supported by substantial preliminary data.

Areas of scientific emphasis for this FOA reflect areas of priority as detailed in the [NIMH Strategic Plan](#) and the [NIMH Strategic Research Priorities](#).

Specific research priorities are listed as follows.

[Division of Neuroscience and Basic Behavioral Science \(DNBBS\)](#): Supports research programs in basic neuroscience, genetics, resource and technology development, and drug discovery.

DNBBS high priority research areas include but are not limited to the following topics:

- Discover novel mechanisms of nervous system development (across genes, proteins, cells and circuitry) and signaling properties that underlie the emergence of cognition, emotion, and social behavior.
- Develop and use innovative strategies, including genome-wide and comparative approaches, to discover genes and gene regulatory mechanisms underlying brain function, cognition, emotion, and social behavior.
- Develop and apply innovative biological, biophysical or cell-based assays for interrogating novel biological targets or processes relevant to mental disorders.
- Discover cellular and molecular mechanisms whereby hormones and immune molecules modulate signaling in brain circuits relevant to emotion regulation, cognition, and social behavior.
- Identify novel therapeutic targets, ligands to modify targets, and neuroimaging tools to advance innovative treatment development for mental illnesses.
- Develop innovative preclinical assays and neurobiological measures of fundamental processes relevant to emotional and cognitive disorders.
- Develop new and use existing physiological and computational models to understand the biological functions of genes, gene products, cells, and brain circuits in health and atypical mental function.
- Develop and empirically evaluate computational and theoretical models that address plasticity of brain circuits during development impacting cognitive, affective, and social behaviors.
- Extend analyses of key determinants of cognitive, affective, and social processes across levels of analysis between genomic, molecular, cellular, circuits to behavior.
- Apply biologically-grounded theory- and data-driven computational models to understand the functions of genes, gene products, cells, and brain circuits in mental functions and complex behaviors.
- Identify, at a genome-wide level, genetic variants that increase risk for mental disorders and related traits in diverse populations from the US and around the world.
- Develop integrative and comparative approaches for understanding the biology of molecular and cellular networks implicated in mental disorders by genome-scale human genetics.
- Identify biological markers (e.g., genetic, proteomic, imaging) in experimental (model) systems and in humans that could be further validated as methods for diagnosing and/or detecting risk/vulnerability, onset, progress, and/or severity of mental disorders.

Awards: Direct costs are limited to \$275,000 over a two-year period, with no more than \$200,000 in direct costs allowed in any single year.

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

Deadline: [Standard dates](#) apply, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on these dates.

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.

Grant Program: NIBIB Biomedical Technology Resource Centers (P41 Clinical Trials Optional)

Agency: National Institutes of Health PAR-18-205

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PAR-18-205.html>

Brief Description: The National Institute of Biomedical Imaging and Bioengineering (NIBIB) uses the P41 mechanism to support Biomedical Technology Resource Centers (BTRCs) that accelerate the development and dissemination of new biomedical technology. It is expected that BTRCs would have a nationwide impact. BTRCs create critical and unique technologies that are at the forefront of their respective fields, and apply these technologies to a broad range of basic, translational, and/or clinical research. Details concerning current NIBIB BTRCs can be found at <https://www.nibib.nih.gov/research-funding/biomedical-technology-resource-centers>.

A BTRC assembles a critical mass of both technological and other intellectual resources with the intent of advancing the development of instrumentation and methodology for biomedical research. NIBIB BTRCs may develop new technologies for use in biomedical research or clinical application(s). This is accomplished through a synergistic interaction of technical and biomedical expertise, both within the BTRC and with other laboratories outside of the BTRC.

The central components of any BTRC are the Technology Research and Development (TR&D) projects. These projects serve as the foundation of all the activities within the BTRC. TR&D projects should be at the cutting edge of the technological field and respond to the emerging needs of the biomedical research community. TR&D projects are scientifically distinct, but are not stand-alone projects, thus they should build on and strengthen the synergistic interactions within the BTRC.

The BTRC application must include Collaborative Projects (CPs) that serve as technology test-beds for the cutting-edge technology developed in TR&D projects. Working in a push-pull, interactive relationship with CPs, a TR&D project should develop and optimize new tools and methods to address specific biomedical research problems that are otherwise difficult to tackle using existing tools and methods. It is expected that the CPs driving the science of each TR&D project would present important challenges to the TR&D.

The BTRC application must include Service Projects (SPs) that serve as users of the well-developed and stable technologies of the BTRC. SPs make use of the technology and expertise of the BTRC, but are not intended to serve as primary drivers for technology development.

Unless there are technological and/or clinical limitations to distributing the TR&D technology, the CPs and SPs should each have a national geographic distribution. The national geographic distribution of the CPs and SPs in new applications may be somewhat limited, but, as BTRCs mature, it is expected that there will be a broad national distribution.

A BTRC also must provide training to outside investigators and disseminate the technology and methods it has developed. These efforts require the commitment of far greater financial and personnel resources to non-science activities than is expected for other types of research efforts. The goal of these efforts is to export the technology and expertise of the BTRC into the broader community, achieving a wider impact on biomedical research. Industrial partnerships are not required, but they are welcome when appropriate. An illustration of the interactions among the required components of a BTRC can be found at NIBIB's BTRC website: (<https://www.nibib.nih.gov/research-funding/biomedical-technology-resource-centers>.)

This combination of TR&D projects, the intense push-pull relationship between technology development and biomedical problem-solving CPs, and the deployment of technologies through biomedical problem-solving SPs, together with training and dissemination, are what set apart

BTRCs from other investigator-initiated research that generally have more narrowly defined goals (such as R01s).

As extensive planning is required in preparing the BTRC applications, prospective new applicants should discuss their plans with the relevant NIBIB Program Directors (refer to <http://www.nibib.nih.gov/research/scientificprogramareas>) to determine the appropriateness of their applications to the P41 mechanism and the NIBIB mission. It is recommended that these discussions occur at least 4-6 months prior to application.

Awards: Direct costs (excluding equipment) are not limited and are expected to vary among applications. Typical direct costs for BTRCs range between \$600,000 and \$750,000. In addition, up to \$500,000 can be requested for special-purpose equipment for the duration of a five-year project period.

Letter of Intent: Six weeks prior to the application due date

Deadline: [Standard dates](#) apply, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on these dates.

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.

Grant Program: NIH Exploratory/Developmental Research Grant Program (Parent R21 Clinical Trial Required)

Agency: National Institutes of Health PA-18-344

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PA-18-344.html>

Brief Description: The evolution and vitality of the biomedical, behavioral, and clinical sciences require a constant infusion of new ideas, techniques, and points of view. These may differ substantially from current thinking or practice and may not yet be supported by substantial preliminary data. Through the NIH Exploratory/Developmental Research Grant Program, the NIH seeks to foster the introduction of novel scientific ideas, model systems, tools, agents, targets, and technologies that have the potential to substantially advance biomedical, behavioral, and clinical research.

This program is intended to encourage new exploratory and developmental research projects. For example, such projects could assess the feasibility of a novel area of investigation or a new experimental system that has the potential to enhance health-related research. Another example could include the unique and innovative use of an existing methodology to explore a new scientific area. These studies may involve considerable risk but may lead to a breakthrough in a particular area, or to the development of novel techniques, agents, methodologies, models, or applications that could have a major impact on a field of biomedical, behavioral, or clinical research.

Applications for Exploratory/Developmental Research Grant awards should include projects distinct from those supported through the traditional R01 activity code. For example, long-term projects, or projects designed to increase knowledge in a well-established area, are not appropriate for this FOA. Applications submitted to this FOA should be exploratory and novel. These studies should break new ground or extend previous discoveries toward new directions or applications. Projects of limited cost or scope that use widely accepted approaches and methods within well-established fields are better suited for the [NIH Small Research Grant Program](#).

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

Letter of Intent: Not Required.

Deadline: [Standard dates](#) apply, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on these dates.

The first standard application due date for this FOA is February 16, 2018.

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.

Grant Program: BRAIN Initiative: Theories, Models and Methods for Analysis of Complex Data from the Brain (R01 Clinical Trial Not Allowed)

Agency: National Institutes of Health RFA-EB-17-005

RFP Website: <https://grants.nih.gov/grants/guide/rfa-files/RFA-EB-17-005.html>

Brief Description: The broad goal of The BRAIN InitiativeSM is to understand the circuits and patterns of neural activity that give rise to mental experience and behavior. As stated in the BRAIN 2025 Report (II.5), "Theory, Modeling, and Statistics Will Be Essential to Understanding the Brain." As advances in neurotechnologies are producing large, complex datasets at an unprecedented rate, novel theoretical and analytical approaches are needed to realize the potential of these rich datasets. Understanding neural circuitry requires an understanding of the algorithms and mechanisms that govern information processing within and between interacting circuits in the brain as a whole. Informed by rich observations, formalized theoretical frameworks allow researchers to infer general principles of brain function and the algorithms underlying functioning neural circuitry. Theory coupled with mathematical modeling and simulations are needed to identify gaps in knowledge, to drive the systematic collection of the future data (e.g., collected data should address model parameters that are currently unknown), and to formulate testable hypotheses on neural circuit mechanisms and how they affect behavioral and cognitive processes. Statistical approaches are needed to conduct formal inference to support or refute a stated theory or hypothesis. Finally, new data analysis methods are needed to detect dynamical features and patterns in complex data, often spanning multiple modalities and scales, are needed to reveal underlying mechanisms of brain function.

The following reports have inspired ideas and concepts for this FOA (but do not represent or replace its specific goals):

<http://www.braininitiative.nih.gov/2025/BRAIN2025.pdf>

<https://www.simonsfoundation.org/life-sciences/simons-collaboration-on-the-global-brain/>, http://www.amstat.org/policy/pdfs/StatisticsBRAIN_April2014.pdf, https://www.imagwiki.nibib.nih.gov/sites/default/files/ComputationalmodelingforUSBRAINinitiative_2.pdf.

This FOA is designed to solicit new theories, ideas, and conceptual frameworks; computational models; and mathematical and statistical methods for driving experimental data collection and analyzing complex data from the nervous system. It is expected that this next generation of analytical tools will be developed such that the neuroscience research community can easily share and use them. This reissue is specifically promoting the development of analytical tools for analyzing behavioral and functional brain circuits that include cellular and sub-second temporal resolution. For example, projects using fMRI are required to include other data types and methods that include cellular and sub-second temporal resolution. **Applications to this FOA must focus on tool building and dissemination in the domain of theories about neural circuit mechanisms, models of circuit structure and function, and/or computational methods of analysis spanning the scale of neurons and firing rates (or proxies thereof) or finer. Investigative studies should be limited to validity testing of the tools being delivered.**

Awards: Application budgets not limited, but are expected to range between \$150,000 to \$250,000 direct costs per year.

Letter of Intent: November 15, 2017

Deadline: December 15, 2017; October 17, 2018; October 17, 2019, by 5:00 PM local time of applicant organization. All [types of non-AIDS applications](#) allowed for this funding opportunity announcement are due on these dates. No late applications will be accepted for this Funding Opportunity Announcement.

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

Grant Program: Innovation Corps (I-Corps™) at NIH Program for NIH and CDC Translational Research (Admin Supp)

Agency: National Institutes of Health PA-18-314

RFP Website: <https://grants.nih.gov/grants/guide/pa-files/PA-18-314.html>

Brief Description: The goal of the I-Corps™ Program is to accelerate the translation of biomedical research to the marketplace by providing training to SBIR and STTR grantees in the areas of innovation and entrepreneurship. Under this program, the NIH and CDC foster the development of early-stage biomedical technologies, focus on teaching researchers how to gain a clearer understanding of the value of their inventions in the marketplace, and ultimately how to advance their technologies from the research lab into the commercial world. This program is designed to complement activities within the scope of the parent SBIR Phase I (R43) or STTR Phase I (R41) grant or the Phase I portion of an SBIR/STTR Fast-Track grant (R44/R42, respectively), to help accelerate the commercialization of new products and services derived from NIH- and CDC-funded technical feasibility studies.

Through this program, I-Corps™ teams will participate in an entrepreneurial immersion course. The I-Corps™ curriculum uses a hypothesis-driven method of customer discovery in order to gain insights into the issues associated with technology commercialization. As part of this program, participants are required to get "out of the lab" and gather information by conducting a large number of interviews (i.e., 100+) with potential customers, strategic partners, and other third-party stakeholders. During the course, I-Corps™ teams share what they learn with instructors and other teams, gaining new insights into the prospective impact of the technology being developed under the SBIR or STTR grant. It is anticipated that the feedback and learning gained during the I-Corps™ program will help inform future Phase II SBIR/STTR projects and commercialization strategies.

The I-Corps™ program will be supported through administrative supplement awards to active NIH or CDC SBIR and STTR Phase I grantees. Administrative supplement awards are intended only to support travel and other costs associated with the training program. A cohort (up to 24 teams per cohort) will be selected to participate in the I-Corps™ at NIH program, which is expected to last approximately eight weeks. **The NIH anticipates that applicants receiving administrative supplements under this FOA will be enrolled in the I-Corps™ at NIH Program in the first of two cohorts in 2018. Only one cohort is invited through this FOA.**

Awards: Application budgets are limited to no more than \$50,000 in total direct costs, and must reflect the actual needs of the proposed project. Note in Section IV.2 that proposed budgets should also include \$20,000 per team to cover workshop registration fees (\$20,000 out of the total budget allowed of \$50,000).

Letter of Intent: Not Applicable

Deadline: December 18, 2017, by 5:00 PM local time of applicant organization.

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

Department of Defense/US Army/DARPA/ONR

Grant Program: Research Interests of the Air Force Office of Scientific Research

Agency: Department of Defense AFOSR – BAA-AFRL-AFOSR-2016-0007

Website:

https://www.fbo.gov/index?s=opportunity&mode=form&id=d8bfeaf2e38a1e4aeb9908190fc2e0f2&tab=core&_cvview=1

Brief Description: AFOSR plans, coordinates, and executes the Air Force Research Laboratory's (AFRL) basic research program in response to technical guidance from AFRL and requirements of the Air Force. Additionally, the office fosters, supports, and conducts research within Air Force, university, and industry laboratories; and ensures transition of research results to support U.S. Air Force needs. The focus of AFOSR is on research areas that offer significant and comprehensive benefits to our national war fighting and peacekeeping capabilities. These areas are organized and managed in two scientific Departments: Engineering and Information Science (RTA) and Physical and Biological Sciences (RTB).

The Air Force Office of Scientific Research, hereafter generally referred to as "we, us, our, or AFOSR," manages the basic research investment for the U.S. Air Force. As a part of the Air Force Research Laboratory (AFRL), our technical experts discover, shape, and champion research within the Air Force Research Laboratory, universities, and industry laboratories to ensure the transition of research results to support U.S. Air Force needs. Using a carefully balanced research portfolio, our research managers seek to foster revolutionary scientific breakthroughs enabling the Air Force and U.S. industry to produce world-class, militarily significant, and commercially valuable products.

To accomplish this task, we solicit proposals for basic research through this general Broad Agency Announcement outlining the U.S. Air Force Defense Research Sciences Program. We invite unclassified proposals that do not contain proprietary information for research in many broad areas. We expect to fund only fundamental research. Our research areas of interest are described in detail in section A. Program Description.

We anticipate many awards in the form of grants, cooperative agreements, or contracts. We reserve the right to select and fund for award all, some, part, or none of the proposals received. There is no guarantee of an award. Please review the entire announcement for full details.

Awards: Funding available: \$80,000,000

Proposal Deadline: This announcement remains open until superseded. We review and evaluate proposals as they are received. You may submit proposals at any time; however, some specific topic instructions may recommend submission by specific dates that align with funding expectations. Funding is limited. We commit the bulk of our funding by the fall of each year.

Contact Information: Daniel Smith Procurement Analyst Phone 703-588-8494
[Business Office Email](#)

Grant Program: DoD Medical Simulation and Information Sciences, Toward A Next-Generation Trauma Care Capability: Foundational Research for Autonomous, Unmanned, and Robotics Development of Medical Technologies (FORWARD) Award

Agency: Department of Defense Dept. of the Army – USAMRAA W81XWH-17-MSISRP-FOR

Website: <http://cdmrp.army.mil/>

Brief Description: The MSISRP FORwARD Award mechanism is being offered for the first time in FY17. This mechanism supports basic research to increase knowledge/understanding through discovery and hypothesis generation, and should focus on providing basic fundamental knowledge that will inform and enable the future development of novel autonomous and/or robotic medical systems to care for wounded soldiers/patients through breakthrough, exploratory research. The objective of the FY17 MSISRP FORwARD Award is focused on addressing the following Topic Areas: 1. Autonomous and Unmanned Medical Capability – Identify novel ideas, approaches and research towards the conceptualization of autonomous and unmanned technologies for next-generation, high-quality medical capabilities with limited or absent medical care personnel, or personnel with limited skills. Research novel concepts, plausible approaches and advanced concept designs using biologically inspired cognitive computing models, machine learning, artificial intelligence, soft robotic semi-autonomous/autonomous resuscitation concepts and advanced applications of information sciences among other innovative, exploratory research towards advancing the state-of-the-art in delivery of forward resuscitative care at the point of injury. 2. Medical Robotics Research – Identify novel ideas, approaches and research towards the conceptualization of medical robotics and real-time tele-presence capabilities exploring the limits of machine perception for tele-robotic semi-autonomous and autonomous trauma care within remote and dispersed geographic settings. This could include exploratory research in semi-autonomous robotic surgery to improve the safety profile and efficacy of tele-surgical procedures and outcomes using hard robotics in challenging situations (e.g., combat casualties on the multi-domain battlefield or mass casualty situations) and remote or austere geographic locations, among other innovative, exploratory research aims and novel concepts.

Awards: Funding available: \$2,600,000

Proposal Deadline: February 05, 2018

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

Department of Energy

Grant Program: Solar Desalination

Agency: Department of Energy [DE-FOA-0001778](#)

Website: <https://eere-exchange.energy.gov/Default.aspx?Search=DE-FOA-0001778&SearchType=>

Brief Description: The U.S. Department of Energy (DOE) seeks to fund applied scientific research that develops novel technologies or concepts using solar thermal energy to assist in the desalination process, which will reduce the levelized cost of water (LCOW) through reducing the levelized cost of heat (LCOH), increasing the energy efficiency for thermal desalination processes, and reducing the overall capital and integration costs for solar thermal desalination. Applications for thermal desalination include municipality water production, agriculture, industrial processes, and produced waters from the oil and gas industry. This funding opportunity announcement (FOA), intends to support the research, development, and demonstration (RD&D) of technologies that have the potential to integrate solar thermal technologies into desalination processes, develop novel low temperature solar concentrators and storage, consider novel and innovative thermal desalination technologies, or show how solar thermal energy can be implemented into current or upcoming desalination methods. As part of the SunShot Initiative, this applied research and development program is intended to demonstrate new concepts in either solar thermal or thermal desalination technologies, or the combination therein. These developments should lead to

subsequent system integration, engineering scale-up, and eventual commercial production for water purification applications.

The eXCHANGE system is currently designed to enforce hard deadlines for Concept Paper and Full Application submissions. The APPLY and SUBMIT buttons automatically disable at the defined submission deadlines. The intention of this design is to consistently enforce a standard deadline for all applicants.

Applicants that experience issues with submissions PRIOR to the FOA Deadline: In the event that an Applicant experiences technical difficulties with a submission, the Applicant should contact the eXCHANGE helpdesk for assistance (exchangehelp@hq.doe.gov). The eXCHANGE helpdesk and/or the EERE eXCHANGE System Administrators will assist the Applicant in resolving all issues.

Applicants that experience issues with submissions that result in a late submission: In the event that an Applicant experiences technical difficulties with a submission that results in a late submission, the Applicant should contact the eXCHANGE helpdesk for assistance (exchangehelp@hq.doe.gov). The eXCHANGE helpdesk and/or EERE eXCHANGE System Administrators will assist the Applicant in resolving all issues (including finalizing the submission on behalf of and with the Applicant's concurrence). DOE will only accept late applications when the Applicant has a) encountered technical difficulties beyond their control; b) has contacted the helpdesk for assistance; and c) has submitted the application through eXCHANGE within 24 hours of the FOA's posted deadline.

Submission Deadline:

- Concept Paper Submission Deadline: 12/4/2017 5:00 PM ET
- Full Application Submission Deadline: 3/16/2018 5:00 PM ET

Contact Information: EERE-ExchangeSupport@Hq.Doe.Gov

Grant Program: FY2018 Scientific Infrastructure Support for CINR Funding Opportunity Announcement

Agency: Department of Energy DE-FOA-0001773

Website: https://nsuf.inl.gov/File/FOA-NEGTN02-225847-v2-FY18_CSIS_SOLICITATION_DE-FOA-0001773.pdf

Brief Description: The Department of Energy's (DOE) Office of Nuclear Energy (NE) conducts crosscutting nuclear energy research and development (R&D) and associated infrastructure support activities to develop innovative technologies that offer the promise of dramatically improved performance for advanced reactors and fuel cycle concepts while maximizing the impact of DOE resources. The development of nuclear energy-related infrastructure and basic capabilities in the research community is necessary to promote R&D that supports nuclear science and engineering (NS&E), DOE-NE's mission, and the Nation's nuclear energy challenges. Accordingly, DOE intends to enable the education and training of nuclear scientists, engineers, and policy-makers in graduate and undergraduate study and two-year programs, as well as R&D that is relevant to the Department and the nuclear energy industry in general. The Nuclear Energy University Program (NEUP) utilizes up to 20 percent of funds appropriated to NE's R&D program for university-based infrastructure support and R&D in key NE program-related areas: • Fuel Cycle Research and Development (FC R&D) • Reactor Concepts Research, Development and Demonstration (RC RD&D) • Nuclear Energy Advanced Modeling and Simulation (NEAMS) The infrastructure requested should be individual, discrete, and definable items or capabilities that will: • Support, maintain, or enhance the institutions' capacities to attract and teach high quality students interested in nuclear energy-related studies; • Build the institutions' research or

education capabilities; or • Enhance the institutions' capabilities to perform R&D that is relevant to DOE-NE's mission. NE reserves the right to respond to potential shifts in priorities during FY 2018 that may be driven by events, policy developments, or Congressional/budget direction. NE will factor such considerations into decisions related to the timing and scale of award announcements associated with this FOA.

Submission Deadline: Nov 30, 2017 Applicants are encouraged to transmit applications well before the deadline. APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE CONSIDERED FOR AWARD. (Please read the FOA instructions for information on how to apply.)

Contact Information: EERE-ExchangeSupport@Hq.Doe.Gov

Grant Program: FOA: State Energy Program 2017 Competitive Awards

Agency: Department of Energy DE-FOA-0001644

Website: <https://eere-exchange.energy.gov/#FoalId039aab9e-c42b-4a8a-bf67-85af26b0f2f6>

Brief Description: Limited to State Energy Offices (defined as the 50 states, the District of Columbia and five territories). The Office of Energy Efficiency and Renewable Energy's (EERE) State Energy Program (SEP) seeks applications to advance policies, programs, and market strategies that advance affordable and reliable energy to promote economic growth and energy security for the nation. This competitive Funding Opportunity Announcement (FOA) allows States (which includes the District of Columbia and five territories) to compete for funding designed to meet SEP's goals to enhance energy security, advance state-led energy initiatives, and maximize the benefits of decreasing energy waste. Specifically, this FOA includes three Areas of Interest: State Energy Planning, Innovative Opportunities for Energy Efficiency and Renewable Energy (EE/RE) Practices, and Technical Assistance to Advance SEP Formula Grant EE/RE Activities.

Submission Deadline: January 11, 2018. Applicants are encouraged to transmit applications well before the deadline. APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE CONSIDERED FOR AWARD. (Please read the FOA instructions for information on how to apply.)

Contact Information: SEPCompetitive2017@ee.doe.gov

NASA

Grant Program: Use of the NASA Physical Sciences Informatics System - Appendix D

Agency: NASA NNH17ZTT001N-17PSI-D

Website:

<https://www.fbo.gov/index?s=opportunity&mode=form&tab=core&id=a3086df0e6b38ec720476107b522fd90>

Brief Description: This National Aeronautics and Space Administration (NASA) Research Announcement (NRA) solicits ground-based research proposals from established researchers and graduate students to generate new scientific insights by utilizing experimental data residing in NASA's Physical Sciences Informatics (PSI) system (<http://psi.nasa.gov>), an online database of completed physical science reduced-gravity flight experiments conducted on the International Space Station (ISS), Space Shuttle flights, and Free-flyers, or from related ground-based studies. The solicitation (NNH17ZTT001N-17PSI-D), entitled "Use of the NASA Physical Sciences Informatics System - Appendix D," will be available on or about September 15, 2017. Upon release, the solicitation will be found via the following steps: 1. Open the NSPIRES homepage at <http://nspires.nasaprs.com/> 2. Select "Solicitations" 3. Select "Open Solicitations" 4. Select "Use of

the NASA Physical Sciences Informatics System NNH17ZTT001N" 5. Select List of Open Program Elements 6. Select "Use of the NASA Physical Sciences Informatics System - Appendix D" 7. Select "Appendix D NNH17ZTT001N-17PSI-D" under Announcement Documents. NASA plans to host a proposers' conference via WebEx shortly after the release of the Appendix to provide more information and to answer questions about the NRA and the PSI system. NASA's Physical Sciences Research Program conducts fundamental and applied physical sciences research, with the objective of enabling exploration and pioneering scientific discovery. NASA's experiments in the various disciplines of physical science reveal how physical systems respond to the near absence of gravity. They also reveal how other phenomena which have a small influence on physical systems in earth's gravity, can dominate system behavior in space. The PSI system (<http://psi.nasa.gov>) is an online, publicly accessible database of completed physical science reduced-gravity flight experiments conducted on the ISS, Space Shuttle flights, or Free Flyers and related ground-based studies. It is a tool designed for researchers to data mine information from reduced-gravity physical sciences experiments and use it to further science in accordance with the open science approach, while also meeting the requirements of the nation's Open Data Policy. This NRA solicits ground-based research proposals that present a compelling case on how the experimental data from the PSI system will be used to promote the advancement of further research. Proposers must show a clear path from the scientific data obtained from the PSI system to the proposed investigation. In addition, the project must address an important problem in the proposed area of research and advance scientific knowledge or technology. This NRA will remain open for five years. There will be annual call for proposals through a series of appendices which are planned to be released yearly. In general, the NRA solicits research in the following six research areas: 1) Biophysics, 2) Combustion Science, 3) Complex Fluids, 4) Fluid Physics, 5) Fundamental Physics, and 6) Materials Science. This announcement includes Appendix D, which will solicit proposals in several research areas identified above. See the full Appendix D for the list of the research areas solicited and eligible PSI investigations. Proposals for Appendix D are due on or about December 15, 2017. This solicitation is applicable to researchers in all categories of U.S. and non-U.S. organizations, including educational institutions, industry, nonprofit organizations, NASA Centers and other U.S. Government agencies. This NRA is soliciting proposals from two types of investigators: 1) established researchers, including postdoctoral scholars; 2) graduate students (with academic advisors) from accredited U.S. postsecondary institutions and programs. Proposals from graduate students must be submitted by their advisor. Principal Investigators (PIs) may collaborate with investigators from universities, Federal Government laboratories, the private sector, state and local government laboratories, and other countries. Proposals including international participation are eligible, provided NASA policies regarding the conduct of research with non-U.S. organizations are met. Proposals must be submitted by an authorized official of the proposing organization. Proposals must be submitted electronically. Proposers may use either NSPIRES (<http://nspires.nasaprs.com/>) or Grants.gov (<http://www.grants.gov>) for proposal submission. Every organization that intends to submit a proposal in response to this NRA must be registered with NSPIRES, and such registration must identify the authorized organization representative(s) who will submit the electronic proposal. Instructions on how to register in NSPIRES are provided in the NRA. Each electronic proposal system places requirements on the registration of principal investigators and other participants (e.g., co-investigators). Potential proposers and proposing organizations are urged to access the system(s) well in advance of the proposal due date(s) to familiarize themselves with its structure and enter the requested information. Questions with regard to responding to this NRA may be addressed to the contacts referenced in the full solicitation document. This is a broad agency announcement as specified in FAR 6.102 (d)(2).

Awards: TBA

Response Deadline: December 15, 2017

Contact: Dr. Francis Chiamonte, Program Scientist for Physical Sciences
francis.p.chiamonte@nasa.gov Phone: 202-358-0693

National Endowment of Humanities

Grant Program: Collaborative Research Grants

Agency: National Endowment of Humanities

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

Brief Description: Debate, exchange of ideas, and working together—all are basic activities that advance humanities knowledge and foster rich scholarship that would not be possible by researchers working on their own. The Collaborative Research grant program encourages collaboration that proposes diverse approaches to topics, incorporates multiple points of view, and explores new avenues of inquiry that lead to publications and other resources for scholarly audiences and/or general audiences.

Collaborative Research grants support groups of two or more scholars engaging in significant and sustained research in the humanities. The program seeks to encourage interdisciplinary work, both within the humanities and beyond. Projects that include partnerships with researchers from the natural and social sciences are encouraged, but they must remain firmly rooted in the humanities and must employ humanistic methods.

Awards: Collaborative Research offers three types of awards to address different sorts of projects and stages of development.

Type 1: Convening Grants – up to \$50,000

Convening grants last one year and typically fund conferences and working group meetings to sharpen the chosen research topic and discuss and plan subsequent publication.

Type 2: Publication Grants – up to \$250,000 (no more than \$100,000 per year)

Publication grants last one to three years and support the project toward completion of its publication goals. Publications can appear in traditional print or in digital form. Note that costs paid to publishers and subventions are not supported.

Type 3: Archaeology Grants – up to \$250,000 (no more than \$100,000 per year)

Proposal Deadline: December 6, 2017

Contact: Contact NEH's Division of Research Programs at 202-606-8200 and collaborative@neh.gov. Applicants who are deaf or hard of hearing can contact NEH via Federal Relay (TTY users) at 800-877-8399.

Streamlyne Update

It has been very exciting to introduce Streamlyne as the new tool for Grant Management. Streamlyne is simplifying the pre-award proposal submission processes promoting shared information technology (IT), and improving the timeliness of grant close out. Currently Streamlyne system has been customized in the following areas:

- Download the package with all forms – there are still some exceptions to this as the federal government continues to change some of the standard forms.

- Validation error prior to submission – this allows to review the package for errors
- Work Flow approval transparent to all users
- Budget forms customized to NSF and/or S2S
- Sub-award budgets easily download – this will allow better management of the award

New “How to Do” videos have been posted on the research website <http://www5.njit.edu/research/streamlyne/>. These videos show step-by-step process on the following tasks:

- ◆ [How to Begin Proposal Submission in Streamlyne](#)
- ◆ [How to Input Proposal Budget](#)
- ◆ [How to Process Approvals](#)
- ◆ [How to Upload Proposal Attachments](#)
- ◆ [How to Search for a Proposal that is in Route](#)
- ◆ [Difference Between "Prime Sponsor Code" and "Sponsor Code"](#)
- ◆ [How to Select an RR Budget, RR Sub-award or Modular Budget](#)
- ◆ [How to Add a Student/Summary](#)
- ◆ [Participant Support Categories](#)
- ◆ [Supplies Specific Category Materials](#)
- ◆ [How to Create a Modular Budget](#)

Also, the following links may be helpful:

- ◆ [Streamlyne Benefits for Proposal Submission and Grant Management](#)
- ◆ [Grants.gov Presentation on Online Proposal Submission Systems](#)
- ◆ [Streamlyne Newsletter V2017.1](#)
- ◆ [Streamlyne FAQs](#)

Faculty and staff having any questions on proposal submission, may contact their college representatives, and also follow up with **Justin Samolewicz, Associate Director (Pre Award)** 973-596-3145; justin.m.samolewicz@njit.edu; and **Eric Hetherington, Director, Sponsored Research Programs Administration** 973-596-3631; eric.d.hetherington@njit.edu. The college representatives to help PIs on proposal submissions are

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