


# RCA UPDATE

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February 16, 2021



The logo for the 2021 NDSU EXPLORE event features a repeating geometric pattern of interlocking squares in a light yellow color. At the top, a dark green horizontal bar contains the text "2021 VIRTUAL EDITION" in yellow, uppercase letters. Below this, the word "EXPLORE" is written in large, dark green, outlined letters. To the left of the "E" in "EXPLORE", the letters "NDSU" are written in a smaller, yellow, sans-serif font. Underneath the word "EXPLORE", the tagline "UNDERGRADUATE EXCELLENCE IN RESEARCH AND CREATIVE ACTIVITY" is written in a small, dark green, uppercase font.

Registration opens **Wednesday, February 17, 2021** for undergraduate students interested in presenting their research and creative activity projects at the annual NDSU EXPLORE event. This year's showcase will be virtual and held during Undergraduate Research Week, April 19-23. The deadline for registration is March 31, 2021.

Details can be found on the [NDSU EXPLORE](#) website. If you have any questions about this event, please send an email to [ndsu.researchdev@ndsu.edu](mailto:ndsu.researchdev@ndsu.edu).



## CRITICAL INFORMATION ABOUT USE OF DJI DRONES

This memo contains important information about the purchase and use of drones manufactured by DJI and other Foreign Entities. Currently, about 80% of the drones that NDSU owns are various DJI models.

### **DJI Drone Use (For Any Purpose)**

1. DJI, a well-known manufacturer of drones based in China, was placed on the U.S. Department of Commerce Entity List in December 2020. The addition to the Entity List means that technology cannot be exported from the United States to DJI without an export license. Prohibited exports include transfer of information or data that may be captured by a drone.

DJI drones come from the manufacturer programmed to send flight data (location, diagnostics, and other information) back to the manufacturer unless the feature is manually disabled. To ensure export compliance, operators of DJI drones at NDSU must take steps to ensure that information is not being transmitted by that drone back to DJI or other third-party cloud-based storage.

A Local Data Mode (LDM) has been added to the drone applications DJI Go 4, DJI Pilot, and DJI Fly that are used to operate many DJI drones. This mode essentially prevents transmission of data over the internet. DJI drones at NDSU must be switched to Local Data Mode and only operated in this mode. If the drone cannot be operated in Local Data Mode because it is an

older model or if the operator needs help with making this change, please [contact Aaron Reinholz](#).

### **Foreign Drone Use (Including DJI) On Federally Funded Projects**

2. Currently, the U.S. Department of Defense, Department of the Interior, and Department of Justice prohibit both the purchase of drones and the use of drones manufactured by “covered foreign entities” (including DJI). This prohibition extends to grants and contracts awarded by these agencies.
3. Legislation is being considered by Congress that would extend the prohibition described in item #2 to all federal agencies and funds. If enacted, DJI and other covered foreign drones could not be purchased or operated for projects with any federal agency including USDA. Although such legislation has not been passed yet, researchers should be aware this may happen at any point and should consider alternative drone products for future purchases.

Additional questions may be directed to:

Sharon May, Export Control Administrator  
[sharon.may@ndsu.edu](mailto:sharon.may@ndsu.edu) / (701) 231-6455

Aaron Reinholz, Director of Research Operations  
[aaron.reinholz@ndsu.edu](mailto:aaron.reinholz@ndsu.edu) / (701) 231-5338

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## **Canada Research Chair in Indigenous Peoples, Technoscience & Environment to participate in NDSU diversity conversation**

Kim TallBear, associate professor of native studies at the University of Alberta and Canada Research Chair in Indigenous Peoples, Technoscience & Environment, will be the Learning the Language of Diversity and Meaningful Inclusion program’s February speaker. TallBear is scheduled to participate in the conversation series on Monday, February 22, at noon CT via Zoom. Her presentation - Indigenization,

Reconciliation, and Decolonization in Science – will begin the program, followed by moderated conversation and audience questions.

Dr. TallBear will highlight colonial assumptions and practices and resistance to those ideas in several research case studies drawn from the genome and health sciences and from green building. She will also highlight a program that helps train Indigenous genome scientists in order to increase the benefit of genome research for Indigenous peoples and provide an analytical framework to understand the relationships between “inclusion,” “Indigenization,” “reconciliation,” and “decolonization.” [Learn more >>](#)



## Federal Proposal Submission Tips

**National Science Foundation (NSF):** all proposals need to be submitted through either [research.gov](https://www.research.gov) or [FastLane](https://www.fastlane.gov). Both systems have the ability to check for validations. Within Fastlane, PIs should use the “check” function to validate the proposal. Within research.gov, each document will show a green check mark if that document passes the validations.

Currently, research.gov has a better ability to check on the components of the proposal package.

**National Institutes of Health (NIH):** all proposals need to be submitted through [ASSIST](https://www.assist.nih.gov). In ASSIST, there is a "Validate Application" tab which is used to check on the application package.

**Other Federal Proposal Submissions:** [Grants.gov](https://www.grants.gov) should be used for most other federal proposal submissions. In grants.gov, each form shows a green “Passed,” when it is completed as well as a secondary “Check Application” that needs to be used.

Please use each system’s abilities to check the application package before notifying SPA personnel to submit the application. Also, note that a proposal cannot be submitted with errors, as the systems will not allow the submission!

## NSF Workshops on Pandemic Prediction and Prevention

The Directorates for Biological Sciences (BIO); Computer Information Science and Engineering (CISE); Engineering (ENG); Social, Behavioral and Economic Sciences (SBE); and the Office of International Science and Engineering (OISE) at the National Science Foundation (NSF) are jointly supporting a series of interdisciplinary workshops to engage research communities around the topic of **Predictive Intelligence for Pandemic Prevention**. These workshops bring together interdisciplinary experts in the **biological, engineering, computer, and social and behavioral sciences** to start conversations and catalyze ideas on how to advance scientific understanding beyond state-of-the-art in pre-emergence and emergence forecasting, real-time monitoring, and detection of inflection point events in order to prevent and mitigate the occurrence of future pandemics.

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

**February 22-23, 2021:** Understanding of how the global behavior of an organism emerges from the interactions that begin occurring between components at the molecular, cellular, and physiological scales.

**February 25-26, 2021:** Identification of pre-emergence and the predictions of rare events in multiscale, complex, dynamical systems.

**March 22-23, 2021:** Examining how human attitudes, social behavior, and the drivers underlying both contribute to disease transmission through their determination of policy and behavioral obstacles and supports.

[Learn more and register to attend >>](#)

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## CONTENTS

### FUNDING OPPORTUNITIES

- [DoD: Congressionally Directed Medical Research Program](#)
- [DOE: ARPA-E OPEN 2021](#)

- [DOE: Chemical Upcycling of Polymers](#)
- [NASA: Early Career Faculty](#)
- [NEH: Humanities Initiatives](#)
- [NIH: Instrumentation Grants](#)
- [NIH: SARS-CoV-2, COVID-19 and Consequences of Alcohol Use](#)
- [NSF: LSAMP Regional Foundational and Forward-Thinking Educational Research Conferences](#)
- [NSF: Understanding the Rules of Life: Emergent Networks](#)

## EVENTS

- [Proposal Development Program](#)
- [SBIR / STTR Webinars from SHARPhub](#)

### Upcoming Limited Submission Program Deadlines

[Limited submission grant programs](#) are those that indicate a limit on the number of proposals that may be submitted by an institution for a particular deadline. A selection process becomes necessary if more applicants express interest in applying than NDSU is allowed to submit to the grant program. Email notifications of interest to [ndsuhresearchdev@ndsuh.edu](mailto:ndsuhresearchdev@ndsuh.edu).

If you identify a limited submission opportunity that is not on the list below, please notify [ndsuhresearchdev@ndsuh.edu](mailto:ndsuhresearchdev@ndsuh.edu).

- [DOE: Chemical Upcycling of Polymers](#)  
*First to Notify; agency deadline for pre-applications: 03/10/2021*
- [Breast Cancer Alliance](#)  
*Notification Deadline: 02/17/2021*
- [Arts Midwest: Grow, Invest, Gather](#)  
*Notification Deadline: 03/04/2021*
- [NEH: Challenge Grants](#)  
*Notification Deadline: 03/04/2021*
- [NIH: Collaborative Program for Multidisciplinary Teams](#)  
*Notification Deadline: 03/04/2021*

- [NIH Research Education: Genomic Research for Data Scientists](#)  
*Notification Deadline: 03/09/2021*
- [NIH Research Education: Enhancing STEM Educational Diversity](#)  
*Notification Deadline: 03/09/2021*
- [NSF Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support](#)  
*Notification Deadline: 03/11/2021*
- [NSF Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support - Coordination Office](#)  
*Notification Deadline: 03/11/2021*
- [NSF LSAMP Regional Foundational and Forward-Thinking Educational Research Conferences – Limited Submission Program](#)  
*Notification Deadline: 03/18/2021*

There are a number of limited submission grant programs with upcoming agency deadlines for which we did not receive any notifications of interest. For those interested in applying to the programs listed below, approval to move forward with a full proposal submission to the funder will be given on a first come, first served basis. Email notifications of interest to [ndsuhdev@ndsuh.edu](mailto:ndsuhdev@ndsuh.edu).

- [NSF: Ethical and Responsible Research](#)  
Agency deadline: February 22, 2021
- [USDA-NIFA: Biotechnology Risk Assessment](#)  
Agency deadline: February 24, 2021
- [NIJ: Office of Violence Against Women](#)  
*Multiple programs; Agency deadlines vary*
- [NSF: Scholarships in STEM](#)  
Agency deadline: April 7, 2021

## Looking for more funding opportunities?



On January 1, NDSU transitioned to a new funding opportunity database subscription: SPIN by InfoEd Global. SPIN is free for current NDSU faculty, staff, and students.

For more information, visit the [SPIN page](#) on the RCA website. If you have questions, please contact [ndsu.researchdev@ndsu.edu](mailto:ndsu.researchdev@ndsu.edu).

## DoD: Congressionally Directed Medical Research Program

The Department of Defense (DoD) Congressionally Directed Medical Research Program (CDMRP) has a number of open funding solicitations in the following areas:

- Breast Cancer Research
- Lung Cancer Research
- Ovarian Cancer Research

[View the full list of programs >>](#)

*Deadlines vary by program*

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## DOE: ARPA-E Open 2021

This Funding Opportunity Announcement (FOA) [[DE-FOA-0002459](#)] marks the fifth OPEN solicitation in the history of ARPA-E. The previous OPEN solicitations were conducted at the inception of the agency in 2009 and again in 2012, 2015, and 2018. OPEN 2021 therefore continues the three-year periodic cycle for ARPA-E OPEN solicitations. An OPEN solicitation provides a vitally important mechanism for the support of innovative energy R&D that complements ARPA-E's primary mechanism, which is through the solicitation of research projects in focused technology programs.

ARPA-E's OPEN FOAs ensure that the agency does not miss opportunities to support innovative energy R&D that falls outside of the topics of the focused technology programs or that develop after focused solicitations have closed. OPEN FOAs provide the agency with a broad sampling of new and emerging opportunities across the complete spectrum of energy applications and allow the agency to "take the pulse" of the energy R&D community. OPEN FOAs have been and will continue to be the complement to the agency's focused technology programs – a unique combination of approaches for supporting the most innovative and current energy technology R&D. For instance, one-third of the sixty examples of most successful ARPA-E projects featured in ARPA-E [Impact volumes](#) resulted from OPEN solicitations. Potential applicants to this FOA are strongly



encouraged to examine the OPEN projects in these volumes and all of the projects supported in the previous four [OPEN solicitations](#) for examples of the creative and innovative R&D ARPA-E seeks in its OPEN solicitations.

*Concept Paper deadline: April 6, 2021; 8:30am*

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## **DOE: Chemical Upcycling of Polymers – Limited Submission Program**

[Limited submission grant programs](#) are those that indicate a limit on the number of proposals that may be submitted by an institution for a particular deadline. A selection process becomes necessary if more applicants express interest in applying than NDSU is allowed to submit to the grant program.

**DOE Chemical Upcycling: [Notify RCA](#) if you are interested in submitting to this program. Approval to submit will be given to the first to notify for this program.**

The Department of Energy (DOE) Office of Science (SC) program in Basic Energy Sciences (BES) announces its interest [[DE-FOA-0002462](#)] in receiving applications on behalf of single investigators and teams of investigators, which may involve multiple institutions, to support fundamental experimental and theoretical efforts that advance chemical upcycling of polymers and circular design of next-generation plastics. The term “plastic” describes a wide array of polymeric materials with diverse compositions and properties. Finished plastic products may include multiple polymeric components and often contain additives to obtain desirable physical, chemical, or mechanical properties. Understanding of chemical approaches that make use of end-of-life plastic products as feedstocks to regenerate the same product, or otherwise upcycle them to new, more valuable products, is limited. BES seeks innovative fundamental research that creates the scientific foundations for new technology solutions to reduce plastic waste, lower the energy impacts of plastic production through chemical upcycling, and create energy- and carbon-efficient feedstocks for valuable products through chemical upcycling of polymers.

**LIMITED SUBMISSION:** Institutions are limited to no more than 2 pre-applications.

## **NASA: Early Career Faculty**

The National Aeronautics and Space Administration (NASA) Headquarters has released a solicitation, titled [Early Career Faculty \(ECF\)](#), through which they are seeking proposals that plan to pursue innovative, early-stage space technology research in the following topic areas:

- Topic 1 – Advanced Computational Techniques for the Development of Cryogenic Refrigeration Systems
- Topic 2 – High-Fidelity Emulation of Full-Physics Models in Earth Science
- Topic 3 – Joining Processes for Shape Memory Alloys to Enable Advanced Structural Applications

The proposed research must be led by a single, eligible Principal Investigator (PI). The PI must be an untenured Assistant Professor on the tenure track at the sponsoring U.S. university at the time of award. The PI must be a U.S. citizen or have lawful status of permanent residency. The PI must be the primary researcher on the effort; Co-Investigators are not permitted. Collaborators (other than NASA civil servants/JPL) are permitted.

*Deadline: March 24, 2021*

## **NEH: Humanities Initiatives**

The National Endowment for the Humanities (NEH) [Division of Education Programs](#) supports creative, integrative, collaborative curricular projects at two- and four-year post-secondary institutions between the humanities, and STEM, pre-professional, and professional programs in law, the health sciences, etc.

- [Humanities Connections](#)  
*Deadline: September 14, 2021*
- [Humanities Initiatives at Colleges and Universities](#)  
*Deadline: May 20, 2021*

The Division also supports humanities education through programs aimed primarily at program and curriculum development and through professional development opportunities for K-12 and higher education faculty. Intensive reading and discussion programs featuring recognized scholars bring together small communities of teachers at both the higher education and K-12 levels to investigate new themes and innovative approaches to humanities subjects. Largely residential and held during the summer, these programs encourage the study of common texts and other resources, include visits to collections in libraries and museums, and help faculty integrate what has been learned back into their classrooms.

- [Institutes for K-12 Educators](#)  
*Deadline: March 9, 2021*
- [Institutes for Higher Education Faculty](#)  
*Deadline: March 9, 2021*

Finally, the Division's veterans-centered program supports institutions interested in designing and implementing discussion programs that explore the experiences of war and military service through the examination of humanities texts and other resources.

- [Dialogues on the Experience of War](#)  
*Deadline: October 14, 2021*

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## **NIH: Instrumentation Grants**

### **Limited Competition: Basic Instrumentation Grant (BIG) Program** [[PAR-21-125](#)]

BIG encourages applications from groups of NIH-supported investigators to purchase a single high-priced, specialized, commercially available instrument or an integrated instrumentation system. The BIG Program is limited to institutions that have not received S10 instrumentation funding of \$250,001 or greater in any of the Federal fiscal years 2018-2020. The minimum award is \$25,000. There is no maximum price limit for the instrument; however, the maximum award is \$250,000. Instruments supported include, but are not limited to, basic cell sorters, confocal microscopes, ultramicrotomes, gel imagers, or computer systems.

### **Shared Instrumentation Grant (SIG) Program** [[PAR-21-127](#)]

SIG encourages applications from groups of NIH-supported investigators to purchase or upgrade a single item of high-priced, specialized, commercially available instruments or

integrated instrumentation system. The minimum award is \$50,000. There is no maximum price limit for the instrument; however, the maximum award is \$600,000. Instruments supported include, but are not limited to: X-ray diffractometers, mass spectrometers, nuclear magnetic resonance (NMR) spectrometers, DNA and protein sequencers, biosensors, electron and light microscopes, cell sorters, and biomedical imagers.

#### **High-End Instrumentation (HEI) Grant Program** [\[PAR-21-126\]](#)

HEI encourages applications from groups of NIH-supported investigators to purchase or upgrade a single item of high-end, specialized, commercially available instruments or integrated systems. The minimum award is \$600,001. There is no maximum price limit for the instrument; however, the maximum award is \$2,000,000. Instruments supported include, but are not limited to, biomedical imagers, high throughput robotic screening systems, X-ray diffractometers, mass spectrometers, nuclear magnetic resonance (NMR) spectrometers, DNA and protein sequencers, biosensors, electron and light microscopes, and cell sorters.

*Deadline: June 1, 2021*

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#### **NIH: SARS-CoV-2, COVID-19 and Consequences of Alcohol Use**

These funding opportunity announcements (FOAs) will support research grants to address urgent, time-sensitive research questions on the relationships between alcohol consumption and COVID-19 related outcomes and consequences. The principal area of focus is research that can improve public health in the near term by informing responses to the current COVID-19 pandemic, in view of 1) the impact of alcohol misuse on incidence and severity of COVID-19 disease or 2) the effect of the COVID-19 disease and pandemic-induced restrictions on alcohol use and alcohol use disorder (AUD).

Time-sensitive applications for which standard NIH review and funding timelines would compromise either the ability to conduct the research or the value of the knowledge and with the potential to inform responses to the current pandemic will be considered.

- R01 [\[RFA-AA-21-002\]](#)
- R03 [\[RFA-AA-21-003\]](#)
- R21 [\[RFA-AA-21-004\]](#)

Deadline: April 14, 2021



## **NSF: LSAMP Regional Foundational and Forward-Thinking Educational Research Conferences – Limited Submission Program**

[Limited submission grant programs](#) are those that indicate a limit on the number of proposals that may be submitted by an institution for a particular deadline. A selection process becomes necessary if more applicants express interest in applying than NDSU is allowed to submit to the grant program.

**NSF LSAMP: [Notify RCA](#) by 03/18/2021, 5:00 p.m. if you are interested in submitting to this program.**

The Louis Stokes Alliances for Minority Participation (LSAMP) program invests in the nation's colleges and universities to aid student success, directly or indirectly, at all STEM pathways, thereby creating a new generation of STEM discoverers for the STEM enterprise nationally and internationally.

The overall goal of the LSAMP program is to help diversify the nation's STEM workforce by funding institutions of higher education to implement comprehensive, evidence-based, and sustained approaches to broadening the participation of students historically underrepresented in STEM (African Americans, Hispanic Americans, American Indians or Alaska Natives, Native Hawaiians or Other Pacific Islanders) primarily at the undergraduate (including community college) and post-baccalaureate levels. These approaches facilitate the successful production of highly capable and diverse STEM talent.

As part of this program, NSF accepts proposals for "Developing Future-Oriented STEM Education Research and/or Priority Areas for Foundational STEM Education Research" conferences with a deadline of June 1, 2021. Prospective PIs are advised to contact a LSAMP program officer to discuss ideas for the event prior to submission.

**LIMITED SUBMISSION:** Only one proposal per year may be submitted by an eligible institution or organization.

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## **NSF: Understanding the Rules of Life: Emergent Networks**

The *Understanding the Rules of Life: Emergent Networks* (URoL:EN) solicitation [[NSF 21-560](#)] looks to understand “rules of emergence” for networks of living systems and their environments. Emergent networks describe the interactions among organismal, environmental, social, and human-engineered systems that are complex and often unexpected given the behaviors of these systems when observed in isolation.

Successful projects of the URoL:EN program are expected to use convergent approaches that explore emergent network properties of living systems across various levels of organizational scale and, ultimately, contribute to understanding the rules of life through new theories and reliable predictions about the impact of specific environmental changes on behaviors of complex living systems, or engineerable interventions and technologies based on a rule of life to address associated outcomes for societal benefit.

The convergent scope of URoL:EN projects also provides unique STEM education and outreach possibilities to train the next generation of scientists in a diversity of approaches and to engage society more generally. Hence, the URoL:EN program encourages research projects that integrate training and outreach activities in their research plan, provide convergent training opportunities for researchers and students, develop novel teaching modules, and broaden participation of under-represented groups in science.

*Deadline: May 10, 2021*

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## **Proposal Development Virtual Program**

The Proposal Development Program provides professional development opportunities for faculty, staff, and graduate students who are new to proposal writing or are seeking a refresher about proposal writing skills and funding agency opportunities. This semester,

these sessions will be held virtually on Zoom.

**Collaborative Proposals: Best Practices in Organizing a Submission**

*Friday, February 19, 2021 | 12-1pm*

Presenter: Christine Strohm, Ph.D., Grant Writing Consultant

**Meeting Expectations of Funding Agencies: USDA**

*Wednesday, March 24, 2020 | 12-1pm*

Presenter: Christine Strohm, Ph.D., Grant Writing Consultant

[Register for these sessions >>](#)

*Zoom access information will be shared with registrants.*

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## **SBIR / STTR Webinars from SHARPhub**

[SHARPhub](#), an NIH-funded program to assist in translating bioscience discoveries into startup companies, is offering multiple free webinars on SBIR / STTR programs.

**Cuss and Discuss**

*Friday, March 12 from 9 –10:30 am CST*

Meet others planning to submit SBIR / STTR proposals to NIH, sharing challenges and learning from others.

REGISTER: <https://bit.ly/371phUf>

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Have questions, ideas, or suggestions for the RCA Update?

[Contact Us](#)

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*The Office of Research and Creative Activity (RCA) sends weekly emails to NDSU faculty and staff to provide current information on various topics including funding opportunities, grant program changes, research resources, deadlines, notices, and training.*

*You are receiving this notification through the NDSU official employee listserv or sub-list. The official listserv refreshes after each pay period.*

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