

## RCA UPDATE

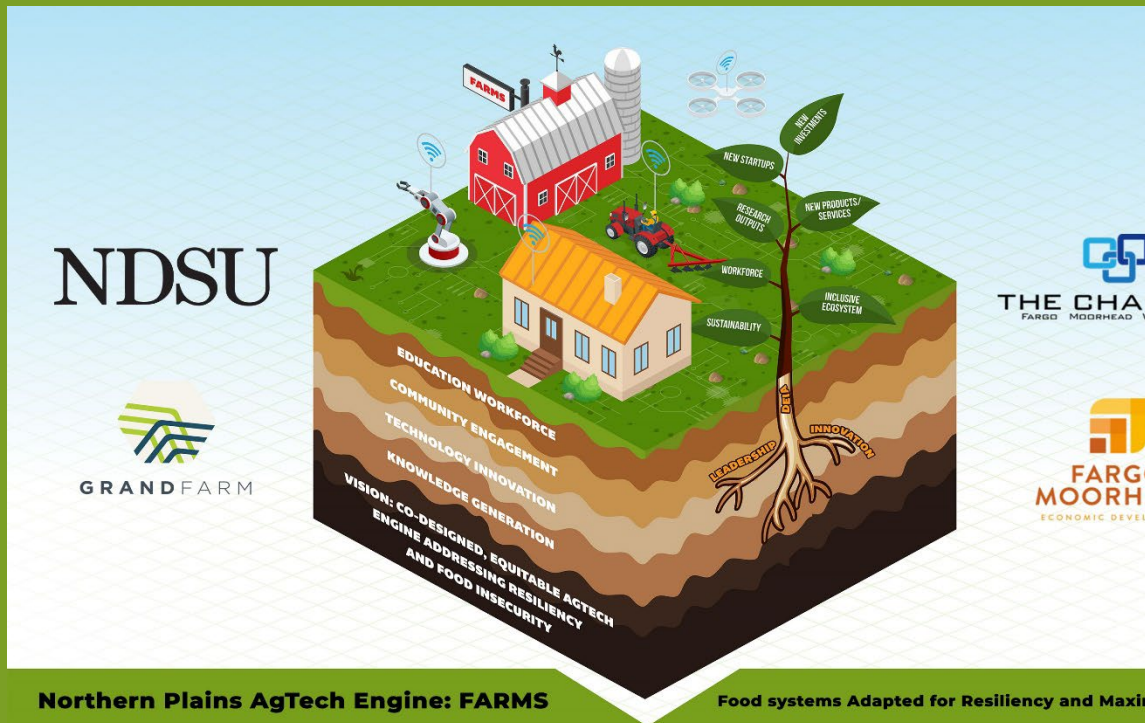
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June 26, 2023

### **FARMS: Groundbreaking AgTech Innovation Partnership**

*NDSU, Grand Farm, Greater Fargo Moorhead Economic Development Corporation,  
and the FMWF Chamber reach semifinalist round for \$160 million NSF Engines  
FARMS proposal*

The collaborative partnership is known as the Northern Plains AgTech Engine for Food systems Adapted for Resiliency and Maximized Security or FARMS. The primary objective of the FARMS proposal is to optimize and leverage the existing agricultural opportunities and the AgTech ecosystem in North Dakota to best address global food challenges. The project will work to offset a diminishing agricultural workforce by improving farming efficiencies, maintaining/increasing yields, reducing environmental impacts and enhancing ecosystems services.



**Northern Plains AgTech Engine: FARMS**

Food systems Adapted for Resiliency and Maxim

Submitted in early 2023, the proposal aims to accelerate economic development in agriculture while focusing on issues such as food security and production for a rapidly growing global population. Partnerships, including those with North Dakota higher education institutions, are featured prominently and include United Tribes Technical College (UTTC) and Nueta Hidatsa Sahnish College from the North Dakota Tribal College System (NDTCS); University of North Dakota, Bismarck State College, and North Dakota State College of Science from the North Dakota University System (NDUS). Private sector and government partnerships were also key components of the project.

The National Science Foundation (NSF) announced that FARMS is one of 34 semifinalists in the competition from an original pool of 188 projects that span nearly all key technology areas and societal and economic challenges highlighted in the CHIPS and Science Act.

“A recent economic impact study shows that agriculture contributes \$31 billion to the North Dakota economy and more than 110,000 jobs,” said NDSU President David

Cook. “FARMS is truly a unique opportunity to accelerate momentum around the future of agriculture technology and our state’s role in addressing food security and the workforce and innovation translation necessary to grow this sector.”

The NSF’s Engines program is designed to catalyze and foster innovation ecosystems throughout the U.S. Its goals include advancing critical technologies, addressing national and societal challenges, cultivating partnerships among industry, academia, government, nonprofits, civil society, and communities of practice, promoting economic growth and job creation, and fostering regional innovation and talent. Engines support use-inspired research, translating innovation into practice, and workforce development while prioritizing diversity, equity, inclusion, and accessibility.

[Read more >>](#)

## **Breakthrough research shows promising solution for protecting sunflower crops from damaging fungi**

A team of researchers, including NDSU AES Plant Pathology Associate Professor Febina Mathew and NDSU AES Plant Pathology Professor Sam Markell, has achieved a breakthrough in combating Phomopsis stem canker. This devastating disease severely threatens sunflower crops in the U.S. Northern Great Plains region in 2010.

Phomopsis stem canker has become a significant concern for sunflower farmers as it impairs crop yield and oil quality. The research team conducted an extensive analysis of 56 foliar fungicide efficacy trials from 2009 to 2021 across Minnesota, Nebraska, North Dakota, and South Dakota.

Sunflowers are an important and growing agriculture commodity in the United States. According to the USDA and the National Sunflower Association, the U.S. sunflower production increased 48% YOY in 2022 and totaled 2.81 billion pounds. North Dakota was the top producing state in 2022, harvesting a total of 1.34 billion pounds of sunflower (up 76% from 2021). South Dakota harvested 1.08 billion

pounds, and Minnesota's production totaled 174.7 million pounds (which was 86% higher than 2021).



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COMPARISON OF A PLOT SPRAYED WITH FUNGICIDE CONTAINING PYRACLOSTROBIN AT MINIATURE FLORAL BUD INITIATION GROWTH STAGE AND A NONTREATED CONTROL (NTC) PLOT IN BROOKINGS, SOUTH DAKOTA IN 2020 (KASHYAP ET AL. 2022).

[Read more >>](#)

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## We're hiring: Research Integrity & Compliance Administrator

The administrator serves as the initial point of contact for IRB-related questions and provides support to other compliance committees such as the Institutional Biosafety Committee (IBC), Institutional Animal Care & Use Committee (IACUC), and Conflict of Interest Committee (COIC). The coordinator works collaboratively with Research & Creative Activity personnel to implement programs that ensure university compliance with federal regulations and mandates.

[Learn more >>](#)

# WE ARE HIRING!

## Research Integrity & Compliance Administrator

### Key Responsibilities:

- Coordinate IRB meetings and operations
- Assist investigators with protocol adherence
- Provide guidance on IRB processes
- Maintain accurate records and ensure compliance
- Support other compliance committees

NDSU | RESEARCH AND CREATIVE ACTIVITY



## National Science Foundation releases I-Corps biennial report

*The I-Corps program strives to train an entrepreneurial workforce while enabling economic impact nationwide. The biennial report shows more than 2,500 I-Corps teams created nearly 1,400 startups and raised \$3.16 billion since 2012.*



The NSF released its biennial report on the efficacy of the NSF Innovation Corps (I-Corps) program. The report highlights I-Corps impacts, including details about the implementation of the program at three agencies: NSF, the National Institutes of Health (NIH), and the Department of Energy (DOE). This year's report describes how I-Corps responds to four urgent national needs: training an entrepreneurial workforce, translating technologies, enabling economic impact, and nurturing an innovation ecosystem.

More than 2,500 teams have participated in I-Corps since the program's inception in 2012. More than half of these teams, nearly 1,400, have launched startups which have cumulatively raised \$3.16 billion in subsequent funding.

NSF has built a structure that can expand the I-Corps program throughout the research community, entrepreneurial communities and other federal agencies, resulting in the National Innovation Network — a tightly connected organization of I-Corps Hubs, Nodes and Sites across the U.S. that make up the program's regional and national training programs. The network empowers researchers and entrepreneurs across the country to learn how to bring innovation research to the marketplace.



**The Great Plains Region I-Corps hub, led by NDSU, is currently accepting applications for 2023 cohorts.**

[Learn more >>](#)

The I-Corps program, which celebrated its 10th anniversary in 2021, has continued to grow — becoming more diverse and inclusive in every dimension, producing

extraordinary societal and economic returns on federal investment, demonstrating resiliency and flexibility even in the face of a global health pandemic, and seamlessly integrating into the innovation and entrepreneurial ecosystems.

Read the full [I-Corps report](#) >>

## Dear Colleague Letter: Availability of Earth observation data for NSF-funded researchers

Recent developments in satellite and sensor technology have led to unprecedented advances in the resolution, extent, and frequency of Earth observations. High spatial and temporal resolution capabilities now allow for the investigation of crucial research questions across several Earth system science education and research themes.



**Several very high-resolution remote sensing data sets are available for use, with the potential to power many scientific advances:**

Currently, data from Spire Global Subsidiary, Inc., and data acquired through NASA's Earth Science Division's collaboration with the International Space Station (ISS) from the Teledyne Brown Engineering, Inc. DLR Earth Sensing Imaging Spectrometer (DESI) are available for all U.S. Government-funded researchers. Data from Planet, covered under the CSDA program, are also available for U.S. Government Federal civil agencies and NSF-funded researchers. NSF-funded researchers are included in the category of U.S. Government (funded) researchers.

Information about these vendors, user licenses, and data is available on the Commercial Datasets

page: <https://www.earthdata.nasa.gov/esds/csda/commercial-datasets>. Information on the available satellites, their orbits, and their sensors' temporal and spectral resolutions is also available at that webpage. As additional commercial small satellite datasets are evaluated and acquired, those datasets will also be made available.

[More information about NSF 23-092 >>](#)

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Through the Commercial SmallSat Data Acquisition (CSDA) Program, all NSF-funded researchers have access to a vast array of datasets. An overview of the CSDA program can be found [here >>](#).

**To request access**, please fill out the form located at: <https://csdap.earthdata.nasa.gov/signup/>.

## Requests for Information

### **Inviting Comments on the National Institute of Biomedical Imaging and Bioengineering 2024-2028 Strategic Plan Framework**

**[NOT-EB-23-004](#)**

The National Institute of Biomedical Imaging and Bioengineering (NIBIB) conducts and supports research to transform through engineering and technology development the understanding of disease and its prevention, detection, diagnosis, and treatment. NIBIB is committed to continually revolutionizing biomedical technologies to improve human health worldwide. We emphasize five major focus areas:

- **Engineered Biological Systems**
- **Sensors and Point of Care Devices**
- **Biomedical Imaging Technologies**
- **Advanced Therapeutic Technologies**
- **Data Science, Modeling, and Computation**



NIBIB is seeking comments on any or all, but not limited to the impact, challenges, and future opportunities across these areas.

All comments must be [submitted electronically](#) by July 17, 2023.

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**NIH Common Fund is Soliciting Ideas for NIH-Wide Challenges and Opportunities**  
**[NOT-RM-23-013](#)**

The Common Fund supports [bold scientific programs](#) that catalyze discovery across all biomedical and behavioral research. These programs bring together investigators and multiple NIH Institutes and Centers (ICs) to collaborate on innovative research. Common Fund programs are expected to address high priority challenges for the NIH as a whole and make a broader impact in the scientific community.

Common Fund investments should be **transformative, catalytic, synergistic, cross-cutting, and unique.**

NIH encourages concise ideas to facilitate the review process. Submissions should focus on broad concepts rather than detailed descriptions.

All responses must be [submitted electronically](#) by August 11, 2023

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**Catalyzing the Development and Use of Novel Alternative Methods to Advance Biomedical Research**  
**[NOT-OD-23-140](#)**

To support the activities of the Advisory Committee to the Director (ACD) Working Group, NIH is requesting information from the interested individuals and communities on challenges and opportunities for the development and use of Novel

Alternative Methods (NAMs) in biomedical research. Input sought includes, but is not limited to, feedback on the following:

- **The use of novel alternative methods to study human biology, circuits, systems, and disease states.**
- **Approaches for catalyzing the development and validation of novel alternative method technologies.**
- **Strategies for maximizing the research value of novel alternative method technologies.**

All comments must be [submitted electronically](#) by August 16, 2023.

## Research Development and Grant Writing News

The Research and Creative Activity office holds a subscription to Research Development and Grant Writing News, a monthly newsletter full of helpful tips and information about funding agencies and writing successful grant proposals.

Here are some articles you will find in the June 2023 edition:

- **June 2023 Select List of Humanities, HSS, and Arts Opportunities & News** – *We list funding opportunities for scholars in the humanities, social sciences and the arts.*
- **Applying for an NEH Humanities Initiative at Your College or University** – *We discuss an NEH funding opportunity to improve humanities teaching and study.*
- **What is Use-Inspired Science and Why Do You Need to Know That?** – *NSF has announced a number of funding opportunities focused on “use-inspired research.” We discuss what that means.*



- **Plagiarism, Fabrication, and Falsification** – *We discuss recent cases brought by NSF’s Office of Inspector General, which can be instructive for PIs.*
- **The Chips & Science Act: What is it Funding?** – *We discuss how the huge amount of funding authorized by the Chips and Science Act is being translated into funding opportunities.*
- **NSF BioFoundries & Related Programs** – *Biotechnology is one of NSF’s five industries of the future. We discuss how this and related funding opportunities support that priority and provide a good example of “use-inspired research” that’s of interest to NSF.*
- **Planning to Write as a Team** - *Writing team proposals is all about integration of team members’ contributions. We discuss this challenge and how to meet it (reprinted from the November 2014 issue).*
- **Avoiding A Common Reviewer Complaint: Descriptive Research** – *Reviewers often criticize proposals for being “descriptive.” We discuss this problem and how to avoid it (reprinted from the March 2021 issue).*
- **Do You Know Where Your Research Fits in Your Discipline’s State of the Art?** *Placing your research in the context of how it advances the state of the art is critical in a research proposal. We discuss how to describe the state of the art in your proposal in a compelling way (reprinted from the May 2019 issue).*

Access [these and many more articles](#) (requires NDSU log-in).

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## Upcoming Events at a Glance

- **59th Meeting of the NIH Advisory Committee on Research on Women’s Health**  
October 18, 2023 | [Learn more >>](#)
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## Funding Opportunities

- [DOE: Battery Research Programs](#)
- [EPA: Community-Based Research for Effective Programs, Policies, and Decisions to Mitigate Cumulative Health Impacts and Environmental Health Disparities in Underserved Communities](#)
- [NEH: Dynamic Language Infrastructure - Documenting Endangered Languages Fellowships](#)
- [New York Public Library: Cullman Center for Scholars and Writers Fellowship](#)
- [NIH: Immune Mechanisms at the Maternal-Fetal Interface](#)
- [NIH: Interventions to Expand Cancer Screening and Preventative Services to ADVANCE Health in Populations that Experience Health Disparities](#)
- [NIH: Maximizing Investigators' Research Award for Early-Stage Investigators](#)
- [NIH: Neuroscience Development for Advancing the Careers of a Diverse Research Workforce - \*\*LIMITED\*\*](#)
- [NIH: NOSI - Understanding Mucosal Immunity Against Enteric Eukaryotic Pathogens to Advance Discovery of New Interventions](#)
- [NSF/NIH: Joint Initiative to Support Research at the Interface of the Biological and Mathematical Sciences](#)
- [NSF: Assessing and Predicting Technology Outcomes](#)
- [NSF: Community Infrastructure for Research in Computer and Information Science and Engineering](#)
- [NSF: Cyberinfrastructure Technology Acceleration Pathway – \*\*LIMITED\*\*](#)
- [NSF: Dear Colleague Letter - Stimulating Diversification in Language Science Research](#)
- [NSF: Division of Chemistry - Disciplinary Research Programs](#)
- [RWJF: Health Data for Access](#)
- [RWJF: Policies for Action Effects of State Preemption Policies on Racial Justice and Health Equity](#)
- [USDA: AFRI - Education and Workforce Development](#)
- [USDA: AFRI - Foundational and Applied Science Programs](#)

### 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 [ndsuh.researchdev@ndsuh.edu](mailto:ndsuh.researchdev@ndsuh.edu) by **close of business** on the notification deadline date.

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

- [NIH: Collaborative Partnership to Advance Global Health Research](#)  
*Notification Deadline: 06/29/2023*
- [NSF: Cyberinfrastructure Technology Acceleration Pathway](#)  
*Notification Deadline: 06/29/2023*
- [NIH: Neuroscience Development for Advancing the Careers of a Diverse Research Workforce](#)  
*Notification Deadline: 07/11/2023*

There are a number of limited submission grant programs with upcoming agency deadlines for which we did not receive any notifications of interest. For these programs, marked "First to Notify," approval to move forward with a full proposal submission to the funder will be given on a first come, first served basis.

- [NSF: Expanding AI Innovation through Capacity Building and Partnerships](#)  
*Deadline: 06/26/2023*
- [HRSA: Nurse Education, Practice, Quality, and Retention \(NEPQR\) Simulation Education Training \(SET\) Program](#)  
*Deadline: 07/03/2023*
- [NEA: Grants for Arts](#)  
*Deadline: 07/06/2023*
- [HRSA: Behavioral Health Workforce Education and Training](#)  
*Deadline: 07/14/2023*
- [HRSA: Healthy Start Initiative - Eliminating Racial/Ethnic Disparities](#)  
*Deadline: 07/17/2023*
- [USDA: Outreach and Assistance for Socially Disadvantaged Farmers and Ranchers and Veteran Farmers and Ranchers](#)  
*Deadline: 07/25/2023*

- [Mathers Foundation: Grant Program \(STEM\)](#)  
LOI deadline: 07/28/2023
- [DOJ: Immersive Employment Readiness Training for Justice-Involved Individuals](#)  
Deadline: 07/31/2023

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## **DOE: Battery Research Programs**

### Battery Research and Development Consortium

A key goal of this Energy Storage activity is the reduction of the cost of vehicular batteries without compromising performance and safety over the life of a vehicle. In response to this goal, the Vehicle Technologies Office (VTO) has set a cost target for light duty vehicle Electric Vehicle (EV) cells of \$60/kWh rated energy by 2030. VTO has also begun to evaluate the performance and cost goals for medium and heavy-duty truck EV batteries and considers these applications to be in the scope of work for this cooperative agreement.

VTO has identified the following additional technical topics as critical for the next phase of wide scale EV commercialization:

- Cost positive recycling of battery components
- Use of earth abundant materials
- Development of BLI chemistries, meaning those using a Li metal anode
- Batteries that meet the durability and use needs of large trucks and fleet applications
- Further development of a U.S. domestic supply chain for PEV battery components

One of the goals of this consortium would be to engage the manufacturers and other key stakeholders, including universities, the National Laboratories, and manufacturers and developers that supply critical materials and components to the battery industry.

**At least 20% cost sharing required.**

*Deadline: September 8, 2023; 4PM*

### Consumer Electronics Battery Recycling, Reprocessing, and Battery Collection

This Funding Opportunity (FO) seeks applications to address the recycling of consumer electronics batteries and battery-containing devices to support the establishment of a robust domestic critical material supply chain for EV batteries. The activities funded under this FO include projects that encourage consumers to recycle batteries and battery-containing devices, develop methods to reduce the cost of recycling batteries, and accelerate the establishment of new collection, reprocessing, and recycling programs in states, localities, and at retailers. These Topic Areas will support the development of a domestic critical material supply chain by providing feedstock materials for recyclers and battery cell manufacturers in the United States.

**Topic Areas:**

1. Expanding Consumer Participation in Consumer Electronics Battery Recycling Programs  
**(0% cost sharing required)**
2. Improving the Economics of Recycling Consumer Electronics Batteries  
**(20% cost sharing required)**
3. State and Local Programs for Consumer Electronics Battery Collection, Recycling and Reprocessing  
**(50% cost sharing required)**
4. Retailer Programs for Consumer Electronics Battery Collection  
**(50% cost sharing required)**

*Concept Paper Deadline: August 17, 2023; 4PM*

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## **EPA: Community-Based Research for Effective Programs, Policies, and Decisions to Mitigate Cumulative Health Impacts and Environmental Health Disparities in Underserved Communities**

This Request for Applications (RFA) [[EPA-G2023-STAR-G1](#)] aims to further advance the scientific knowledge essential for obtaining an accurate and realistic assessment of the cumulative impacts from multiple chemical and non-chemical stressors, exacerbated by environmental factors, including racial and social injustices in underserved communities. It seeks applications for community-based scientific research to assess cumulative impacts from multiple combined and interacting environmental (chemical [pollutants/contaminants] and non-chemical) stressors upon human health in

underserved communities. The goal is not only to understand cumulative impacts from a community perspective, but also to consider community dynamics and variability in the development of solutions.

The RFA will seek research proposals to

- Improve health, well-being, and quality of life outcomes by assessing and addressing cumulative impacts resulting from combinations of chemical and non-chemical stressors in underserved communities and investigate how the scientific information can be used to develop effective cumulative impact assessment approaches and/or methods.
- Investigate how cumulative impact assessment approaches and/or methods can be used to shape better informed practical programs, policies, and decisions to eliminate environmental health disparities. The applicants are asked to identify and work with specific communities, state, tribal, and/or local programs and policies that cumulative impact assessment can improve and inform explicitly where in the decision-making process the cumulative impact assessment can be applied.

*Deadline: August 31, 2023*

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## **NEH: Dynamic Language Infrastructure - Documenting Endangered Languages Fellowships**

The Dynamic Language Infrastructure – Documenting Endangered Languages ([DLI-DEL](#)) Fellowships are offered as part of a joint, multi-year funding program of the National Endowment for the Humanities (NEH) and the National Science Foundation (NSF) to develop and advance scientific and scholarly knowledge concerning endangered human languages.

Addressing the imminent loss of linguistic knowledge is a major concern and a priority for both agencies. The broad range of human languages are vital for understanding human behavior and cognition, but roughly half of the world's seven thousand languages are endangered and at risk of extinction. These endangered languages constitute an irreplaceable resource, not only for the communities who speak them, but also for scientists and scholars.



DLI-DEL Fellowships support individuals who are junior or senior linguists, linguistic anthropologists, and sociolinguists to conduct research on one or more endangered or moribund languages. DLI-DEL Fellowships prioritize scholarly analysis and publication, including but not limited to lexicons, grammars, databases, peer-reviewed articles, and monographs. Awards also support fieldwork and other activities relevant to digital recording, documenting, and sustainable archiving of endangered languages.

*Anticipated Deadline: September 13, 2023*



## **New York Public Library: Cullman Center for Scholars and Writers Fellowship**

The Dorothy and Lewis B. Cullman Center for Scholars and Writers offers [Fellowships](#) to people whose work will benefit directly from access to the research collections at the Stephen A. Schwarzman Building. Renowned for the extraordinary comprehensiveness of its collections, the Library is one of the world's preeminent resources for study in anthropology, art, geography, history, languages and literature, philosophy, politics, popular culture, psychology, religion, sociology, sports, and urban studies.

The Cullman Center's Selection Committee awards fifteen Fellowships a year to outstanding scholars and writers—academics, independent scholars, journalists, creative writers, translators, and visual artists. Foreign nationals conversant in English are welcome to apply. Candidates for the Fellowship will need to work primarily at the Stephen A. Schwarzman Building rather than at other divisions of the Library. The Cullman Center looks for top-quality writing. It aims to promote dynamic communication about literature and scholarship at the very highest level—within the Center, in public forums throughout the Library, and in the Fellows' published work.

Fellows work at the Center for the duration of the Fellowship term, which runs from September through May. Each Fellow gives a talk over lunch on his or her current work-in-progress to the other Fellows and to a wide range of invited guests, and may be asked to take part in other programs at The New York Public Library.

*Deadline: September 29, 2023; 4PM*

## **NIH: Immune Mechanisms at the Maternal-Fetal Interface (R01 Clinical Trial Not Allowed)**

The purpose of this Funding Opportunity (FO) [[RFA-AI-23-027](#)] is to solicit applications that investigate the factors and mechanisms that control the generation of various populations of innate and adaptive leukocytes to support pregnancy and to enable optimal placental development and function. Studies exploring the contribution of immune dysregulation to gestational disorders and adverse pregnancy outcomes may also be included. Projects may include interactions between immune and non-immune cells that support a healthy pregnancy; and/or studies that determine the effects of infections and/or vaccinations on pregnancy outcomes or the developing fetal and neonatal immune system. Development of novel approaches to reveal mechanistic insights of normal and pathological pregnancies are encouraged.

Applicants are strongly encouraged to use human tissues and cells. These may include samples obtained from human subjects administered licensed vaccines or from independently funded completed or ongoing clinical trials. Recognizing that tissues and cells may not be easily obtained from women at different periods during pregnancy, applicants may use relevant animal models to elucidate immune mechanisms during natural infection, or via challenge studies.

Within the proposed research project, applicants are encouraged to address the development of technologies/resources relevant to the biology/immunology of the maternal-fetal interface. These may include, but are not limited to, the following:

- Novel methods and pipelines to efficiently integrate 'omics' data across the maternal-placental-fetal triad
- Engineered *ex vivo* systems to define and examine the maternal-fetal interface
- Visualizing dynamic changes at the maternal-fetal interface.

*Letter of Intent Deadline: September 11, 2023*

## **NIH: Interventions to Expand Cancer Screening and Preventative Services to ADVANCE Health in Populations that Experience Health Disparities (R01 Clinical Trial Required)**

This Funding Opportunity (FO) [[PAR-23-170](#)] invites applications to test cancer preventive or screening interventions to reduce the burden of cancer in populations that experience health disparities. In particular, this R01 is to solicit applications to address barriers and facilitators that impede use or uptake of cancer screening and preventive services in populations that experience health disparities. Interventions should include screening, preventive services, or other healthcare processes, including timely follow-up of abnormal findings, and referral to accessible care. Projects are encouraged to leverage collaborations with community partners and service providers. Interventions should address barriers and facilitators at two or more of the following levels: patient, clinician, healthcare setting, and neighborhood/community. Specific research interests of participating NIH ICs are detailed within.

The NIH Office of Disease Prevention (ODP) invites applications to test interventions to promote cancer screening and preventive services among populations that experience health disparities. In the United States, several populations demonstrate increased incidence and/or more aggressive disease for specific cancer types. The causes of these health disparities are multifactorial, including access to healthcare, screening uptake, prevalence of inherited pathogenic mutations associated with cancer risk factors, among others. Novel interventions for improving preventive, screening behaviors, or interventions that test strategies for disseminating or implementing interventions with known effectiveness, are warranted to improve cancer outcomes in populations that experience health disparities.

Examples of intervention approaches may include, but are not limited to the following:

- Promote equitable access within primary care settings to screening, preventive services, and referral and linkages to appropriate diagnostic follow-up and accessible care
- Establish collaborations with community partners and service providers that move beyond offering screening or preventive services in primary care settings
- Enhance, and/or adapt existing strategies or new combinations of evidence-based strategies

*Deadline: October 5, 2023*

## NIH: Maximizing Investigators' Research Award for Early-Stage Investigators (R35 - Clinical Trial Optional)

The National Institute of General Medicine Science (NIGMS) Maximizing Investigators' Research Award (MIRA) [[PAR-23-145](#)] provides support for the NIGMS-relevant program of research in an investigator's laboratory. For this Funding Opportunity (FO), the "program of research" is defined as a collection of projects in an investigator's laboratory that are within the [mission of NIGMS](#). This FO allows applications from eligible Program Directors/Principal Investigators (PDs/PIs) who are NIH-defined Early-Stage Investigators ([ESIs](#)) at the time of submission.

It is anticipated that MIRA will achieve the following:

- Enable investigators to apply earlier in their independent research careers, allowing them to secure grant funding that will launch and sustain productive research careers.
- Enhance investigators' ability to move into research areas that are distinct from those of their postdoctoral mentors by not requiring or expecting preliminary data, which could lead to new scientific discoveries.
- Larger award amount than the current average NIGMS R01 award to ESIs.
- Increase the stability of funding for NIGMS-supported investigators, which could enhance their ability to take on ambitious scientific projects and approach problems more creatively.
- Increase flexibility for investigators to adapt to important new research directions as opportunities arise, rather than being bound to specific aims proposed in advance of the studies.
- More widely distribute funding among the nation's highly talented and promising investigators to increase overall scientific productivity and the chances for important breakthroughs.
- Reduce the time spent by researchers writing and reviewing grant applications, allowing them to spend more time conducting research.
- Enable investigators to devote more time and energy to mentoring trainees in a more stable research environment.

NIGMS will also work to ensure that it maintains a broad research portfolio in terms of scientific areas, approaches, regions, institutions, and individuals. Such breadth will optimize returns on the Institute's investments by maximizing the ideas explored and the chances for important breakthroughs.

Deadline: October 3, 2023



## **NIH: Neuroscience Development for Advancing the Careers of a Diverse Research Workforce (R25 Clinical Trial Not Allowed) - LIMITED**

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.

**Notify RCA by July 11, 2023, COB, if you are interested in submitting to this program.**

The NIH Research Education Program (R25) [[PAR-23-178](#)] supports research educational activities that complement other formal training programs in the mission areas of the NIH Institutes and Centers.

The overarching goal of this R25 program is to support educational activities that encourage individuals from diverse backgrounds, including those from groups underrepresented in the biomedical and behavioral sciences, to pursue further studies or careers in research.

This NIH Neuroscience Development for Advancing the Careers of a Diverse Research Workforce (R25) is a flexible and specialized program designed to foster the development of neuroscience researchers from diverse backgrounds, including individuals from underrepresented groups, across the specified career stages. This Neuroscience Diversity R25 initiative will focus on factors that have been shown to affect retention of underrepresented postbaccalaureate, graduate students, postdoctoral trainees, and junior faculty in neuroscience research, such as mentoring, scientific networks, professional development, and attention to the

structural and institutional environment regarding inclusion.

To accomplish the stated over-arching goal, this FO will support creative educational activities with a primary focus on three types of activities (all three must be included):

- Mentoring Activities
- Research Experiences
- Courses for Skills Development

**LIMITED SUBMISSION:** *Only one application per Institution.*

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## NIH: NOSI - Understanding Mucosal Immunity Against Enteric Eukaryotic Pathogens to Advance Discovery of New Interventions

The Notice of Special Interest (NOSI) [[NOT-AI-23-045](#)] invites applications to conduct research to better understand the basic biology and immunology associated with *Cryptosporidium* spp. (e.g., *Cryptosporidium parvum* and *Cryptosporidium hominis*), *Giardia duodenalis* (i.e., *Giardia lamblia*), and *Entamoeba histolytica*, including infection-induced mucosal immunity at the site of infection, leading to identification or discovery of new immune-mediated or host-directed interventions as countermeasures.

This NOSI is to encourage comprehensive research efforts to better understand host-pathogen interactions and pathogen-specific immunity at mucosal sites, including infection-induced mucosal immunity at the site of infection, host target identification, antigen or immunogen discovery, and design and testing of vaccines, monoclonal antibodies (mAbs), or host-directed therapies.

Activities may include, but are not limited, to the following:

- Parasite biology and host-parasite interaction at mucosal sites
- Impact of mucosal biology, immunology, nervous system, and microbiome on pathogen pathogenesis and clearance
- Pathogen-specific immunity, including correlates of protection

- Establishment of biological assays for functional evaluation
- Development of models that mimic pathophysiology of human disease
- Host target discovery, immunogen design, mAb identification
- Discovery of vaccines, mAb product candidates or mAb-related interventions, or host-directed therapies, especially those using novel platforms

Submit applications for this initiative using one of the following notices of funding opportunities (FOs) or any reissues of these opportunities through the expiration date of this notice.

- [PA-20-185](#) – NIH Research Project Grant (Parent R01 Clinical Trial Not Allowed)
- [PA-20-195](#) – NIH Exploratory/Developmental Research Grant Program (Parent R21 Clinical Trial Not Allowed)

*Deadline: This notice applies to application receipt dates on or after October 5, 2023 and subsequent receipt dates through July 16, 2026.*

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## **NSF/NIH: Joint DMS/NIGMS Initiative to Support Research at the Interface of the Biological and Mathematical Sciences**

The Division of Mathematical Sciences (DMS) in the Directorate for Mathematical and Physical Sciences (MPS) at the National Science Foundation (NSF) and the National Institute of General Medical Sciences (NIGMS) at the National Institutes of Health (NIH) plan to support fundamental research in mathematics and statistics necessary to answer questions in the biological and biomedical sciences. Both agencies recognize the need to promote research at the interface between mathematical and life sciences. This program [[NSF 22-600](#)] is designed to encourage new collaborations, as well as to support innovative activities by existing teams.

The joint DMS/NIGMS initiative offers two submission tracks:

**Track 1** - for projects with a total budget of up to \$600,000 for an award duration of 3 years, and

**Track 2** - for projects with a total budget of up to \$1,200,000 for an award duration of 3-4 years.

Mathematical scientists and others capable of developing innovative methods and tools in mathematical sciences, are encouraged to apply. Successful projects to the joint

DMS/NIGMS initiative are anticipated to impact and advance biological/biomedical research and lead to advances in the mathematical sciences. Interdisciplinary collaborations between mathematical/statistical and biological/biomedical scientists are expected and highly preferred.

Examples of relevant research areas/topics of inquiry to the joint DMS/NIGMS initiative include, but are not limited to:

- New mathematical, computational, and statistical methods that address the efficiency, robustness, quality control, uncertainty qualification, and reproducibility in biological and biomedical research
- Mechanistic and/or first principle-based modeling of biological/biomedical systems with novel mathematical or computational approaches at all levels of biological systems
- Novel and foundational mathematical/computational/statistical approaches for data science research of complex biological/biomedical systems
- Parameter estimation, inference and uncertainty quantification for multi-scale deterministic and/or stochastic models for complex biological processes, model validation and robustness evaluation
- Predictive models from high-dimensional or sparse biological/biomedical data with uncertainty
- Integrated multiscale approaches for connecting multiple spatiotemporal scales of biological processes

*Deadline: September 18, 2023*

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## **NSF: Assessing and Predicting Technology Outcomes**

The National Science Foundation (NSF), through the Directorate for Technology, Innovation and Partnerships (TIP), is launching a new program on *Assessing and Predicting Technology Outcomes (APTO)* [[NSF 23-600](#)] to assess how investments in science and technology research and development will contribute to specific outcomes for the Nation. The APTO program will support a cohort of projects that will work together to complement each other's research and development (R&D) efforts on technology outcome models to accurately describe three types of technology outcomes: *technology capabilities*, *technology production*, and *technology use*. These models should be able to predict future as well as past states of technology outcomes. Of particular interest are



prediction models that are generalizable across multiple technology areas. The outcome of this work will help assess and evaluate the effectiveness of U.S. R&D investments and generate information that decision makers could use to strategize and optimize investments for advancing long-term U.S. competitiveness into the future.

Building effective technology outcome models will likely require a generalized understanding of technology evolution across all technologies:

- Artificial intelligence, machine learning, autonomy, and related advances;
- High performance computing, semiconductors, and advanced computer hardware and software;
- Quantum information science and technology;
- Robotics, automation, and advanced manufacturing;
- Technology for natural and anthropogenic disaster prevention or mitigation;
- Advanced communications technology and immersive technology;
- Biotechnology, medical technology, genomics, and synthetic biology;
- Data storage, data management, distributed ledger technologies, and cybersecurity, including biometrics;
- Advanced energy and industrial efficiency technologies, such as batteries and advanced nuclear technologies, including but not limited to for the purposes of electric generation; and
- Advanced materials science, including composites 2D materials, other next-generation materials, and related manufacturing technologies.

*Pre-application Deadline: August 21, 2023*

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## **NSF: Community Infrastructure for Research in Computer and Information Science and Engineering**

The Community Research Infrastructure for Computer and Information Science and Engineering (CIRC) program [[NSF 23-589](#)] drives discovery and learning in the core disciplines of the three participating CISE divisions [Computing and Communication Foundations (CCF), Computer and Network Systems (CNS), and Information and Intelligent Systems (IIS)] of the Directorate for Computer and Information Science and Engineering (CISE) by funding the creation and enhancement of world-class research infrastructure. This research infrastructure will specifically support diverse communities of CISE researchers pursuing **focused research agendas in computer and information science**

**and engineering.** This support involves developing the accompanying user services and engagement needed to attract, nurture, and grow a robust research community that is actively involved in determining directions for the infrastructure, as well as management of the infrastructure. This should lead to research infrastructure that can be sustained through community involvement and community leadership, and that will enable advances not possible with existing research infrastructure.

The CIRC program supports four classes of awards:

- **Planning Community Infrastructure (Planning)** awards support planning efforts to engage research communities to develop new CISE community research infrastructures. Such an infrastructure could be eventually funded through the CIRC program (**Planning-C**) or the NSF Mid-scale Research Infrastructure (MsRI) program (**Planning-M**). For the scope of Mid-scale RI proposals, see [the Mid-scale RI-1](#) and [Mid-scale RI-2](#) program pages.
- **Exploratory Development (Dev)** awards support activities that involve the validation of one or more unproven infrastructure designs and/or technologies, which, if validated, could enable transformative community research infrastructure in the future. Successful projects are expected to provide the technical foundations necessary to pursue subsequent CIRC (**New** or **Grand**), [Mid-scale RI-1](#), or [Mid-scale RI-2](#) projects.
- **Medium Community Infrastructure (Medium)** awards support the creation of new CISE community research infrastructure or the enhancement of existing CISE community research infrastructure with integrated tools, resources, user services, and research community outreach to enable innovative CISE research opportunities to advance the frontiers of the CISE core research areas. The **Medium** award class includes **New (New)** and **Enhance/Sustain (ENS)** awards.
- **Grand Community Infrastructure (Grand)** awards support projects involving significant efforts to develop new CISE community research infrastructure or to enhance and sustain an existing CISE community research infrastructure to enable world-class CISE research opportunities for broad-based communities of CISE researchers that extend well beyond the awardee organization(s).

Each CIRC **Medium** or **Grand** award may include support for operation of the infrastructure, ensuring that the awardee organization(s) is (are) well positioned to provide a high quality of service to CISE community researchers expected to use the infrastructure to realize their research goals.

## **NSF: Cyberinfrastructure Technology Acceleration Pathway – LIMITED**

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.

**Notify RCA by June 29, 2023, COB, if you are interested in submitting to this program.**

This CITAP solicitation [[NSF 23-597](#)] is focused on the translation of innovative research CI software – such as system software, libraries, application codes, and software enabling data services. NSF seeks proposals that aim to design, test, and subsequently operate a pathway service within the ACCESS program that manages and accelerates the translation of promising research CI software to production-quality services across the NSF advanced CI ecosystem in support of the NSF S&E research community.

CITAP proposals are expected to create a new workflow process within the ACCESS program (details below) that:

- Identifies novel CI software from diverse sources in a strongly community-informed way;
- Establishes an open and merit-based process for selecting and prioritizing/sequencing which of the identified innovations are of highest and most immediate value to users of the advanced CI ecosystem and can be feasibly translated to production level and made available for use by researchers using ACCESS resources; and
- Establishes an operational process that translates innovations into production services, including creation of partnerships where necessary to

address each of the technical challenges and intellectual property (IP) considerations faced when integrating novel CI software within the advanced CI ecosystem.

The **Advanced Cyberinfrastructure Coordination Ecosystem of Support and Services** ([ACCESS](#)) program provides an array of national-scale CI services to the S&E research community, including integrated coordination of users' requests for computational and data resources; integration of resource providers' systems; deployment of technical support; monitoring of system usage; user training; and communication and outreach to the CI and research communities.

**LIMITED SUBMISSION:** Only one application per Institution.



## **NSF: Dear Colleague Letter - Stimulating Diversification in Language Science Research**

The National Science Foundation (NSF) encourages submission of proposals that diversify and further deepen the study of language and communication. This is a collaborative initiative across several programs in the Division of Behavioral and Cognitive Sciences with shared interests in the study of language. This is an effort to catalyze new collaborations that integrate knowledge across disciplines and/or levels of analysis. The goal is to advance more generalizable and replicable theories in the language and communication sciences via diversified sampling practices, language(s) of study, methodologies and theoretical perspectives.

Examples of possible topics suitable for this Dear Colleague Letter (DCL) [[NSF 23-103](#)] include but are not limited to: language science in variable contexts; effects of socioeconomic status on language development; effects of language, culture and experience on cognition; neuroscientific studies within diverse language communities; and effects of cross-linguistic variation on language processing. In their proposals, PIs should follow scientifically guided approaches to diversity and clearly explain why the specific approaches to diversification or integration in the proposal will have an impact on developing more generalizable theories of language development, the mechanisms of language learning and processing or the neural basis of language.

This is not a special competition or new program; investigators should submit a proposal in response to this DCL directly to one of the participating programs, following their guidelines including deadlines/target dates. A proposal in response to this DCL should start the proposal title with "**LangDiv.**" Primary and secondary units of consideration on the cover sheet should indicate the most relevant participating SBE program(s).

**Participating programs** in the *Social, Behavioral and Economics Sciences Directorate* include:

- [Cognitive Neuroscience](#)
- [Developmental Sciences](#)
- [Dynamic Language Infrastructure-Documenting Endangered Languages](#)
- [Linguistics](#)
- [Perception, Action, and Cognition](#)
- [Science of Learning and Augmented Intelligence](#)

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## **NSF: Division of Chemistry - Disciplinary Research Programs**

The Division of Chemistry (CHE) supports a large and vibrant research community engaged in fundamental discovery, invention, and innovation in the chemical sciences. The projects supported by CHE in this solicitation [[NSF 22-605](#)] explore the frontiers of chemical science, develop the foundations for future technologies and industries that meet changing societal needs, and prepare the next generation of chemical researchers.

Some of the areas supported by CHE include:

- Designing, synthesizing and characterizing new molecules, catalysts, surfaces, and nanostructures - especially those with a focus on sustainability
- Increasing our fundamental understanding of chemical species, their structures, and their chemical transformations, kinetics, and thermodynamics
- Developing new tools and novel instrumentation for chemical discovery, including those in data discovery science where increasing volumes and varieties of data are harnessed to advance innovation
- Determining structure-function relationships in biological systems and contributing to our understanding of the fundamental rules of life
- Observing, manipulating, and controlling the behavior of matter and energy in nanometer dimensions such as the quantum regime

- Understanding chemical processes in the environment
- Expanding chemical understanding through data sharing, mining, and repurposing; and expanding state-of-the-art data analytics tools
- Solving complex chemical problems by the development of new theories, computations, models, and tools
- Contributing to industries of the future as relevant to the chemical sciences: quantum information systems, biotechnology, advanced manufacturing, artificial intelligence.

This solicitation covers submission to the following six CHE Disciplinary Research Programs (DRPs; also known as core programs):

- **Chemical Catalysis (CAT)**, [\[Program Description\]](#)
- **Chemical Structure Dynamics and Mechanisms-B (CSDM-B)**, [\[Program Description\]](#)
- **Chemical Synthesis (SYN)**, [\[Program Description\]](#)

*Deadline for the above 3 programs: September 30, 2023*

- **Chemical Measurement and Imaging (CMI)**, [\[Program Description\]](#)
- **Environmental Chemical Sciences (ECS)**, [\[Program Description\]](#)
- **Macromolecular, Supramolecular and Nanochemistry (MSN)**, [\[Program Description\]](#)

*Deadline for the above 3 programs: October 31, 2023*

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## **RWJF: Health Data for Access**

[Health Data for Access](#) (HD4A) aims to reduce the barriers often faced in accessing rich data by serving as a conduit between unique data owners and interested researchers. Under this 2023 HD4A call for proposals (CFP), successful applicants for Data Access Awards will be provided free access to selected data sets, while limited funding is available for a small number of projects from First-Time Investigators who will receive both funds and access to conduct studies using selected data sets.

The HD4A program will support innovative research that uses the available data to answer important research questions and inform health policy. Applicants will write a proposal for a research study using anticipated data sets listed in the CFP. Eligible research projects can focus on a variety of topics, including, but not limited to national practice patterns in

long-term care; public health surveillance and population health; rehospitalization rates; the opioid epidemic; maternal and infant health; home- and community-based services; racial and ethnic disparities; healthcare costs and utilization; prescription patterns and medication adherence; prevalence of chronic disease; trends in insurance markets; consolidation and competition; and rate comparisons.

There is an Optional Webinar July 18, 2023 at 2PM. [Registration is required >>](#)

*Deadline: August 18, 2023; 2PM*

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## **RWJF: Policies for Action Effects of State Preemption Policies on Racial Justice and Health Equity**

The Robert Wood Johnson Foundation (RWJF) supports research that identifies the systemic root causes of U.S. health inequities, which have strong links to structural racism and other forms of oppression. RWJF's approach is to challenge and improve conventional methods and assumptions and source new ideas to generate evidence that can advance equity and justice for communities of color. Along with RWJF's other signature research programs, Policies for Action ([P4A](#)) funds research that can move policy toward the goals of dismantling structural racism and injustice and promote health equity and wellbeing. Efforts to do this include funding diverse researchers and research organizations and disseminating policy research that is equity focused and actionable.

For this P4A call for proposals, the goal is to build the evidence base investigating how preemption policies at the state level may affect racial justice and health equity. Research should focus on how state-level preemption impacts local authority; apply a racial equity lens to the policy research processes and outcomes; and include community groups and/or members, especially those from historically marginalized communities, as leaders or partners in all stages of the research. Research findings are intended to inform and guide legislators; public agencies; public policy advocates; racial and other justice organizations; community organizers; and others who are developing and implementing policies to create thriving, healthy, equitable communities

There is an Optional Webinar July 5, 2023 at 12PM. [Registration is required >>](#)

*Deadline: August 10, 2023; 2PM*



## **USDA: AFRI - Education and Workforce Development**

The Agriculture and Food Research Initiative - [Education and Workforce Development](#) (EWD) focuses on developing the next generation of research, education, and extension professionals in the food and agricultural sciences. The National Institute of Food and Agriculture (NIFA) requests applications for the AFRI's Education and Workforce Development program areas to support:

1. professional development opportunities for K-14 educational professionals;
2. non-formal education that cultivates food and agricultural interest in youth;
3. workforce training at community, junior, and technical colleges;
4. training of undergraduate students in research and extension;
5. fellowships for predoctoral candidates and postdoctoral scholars.

*Deadlines vary by program area*



## **USDA: AFRI - Foundational and Applied Science Programs**

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

*Deadlines vary by program area*



**Looking for more funding opportunities?**





RCA subscribes to SPIN by InfoEd Global, a database of more than 40,000 funding opportunities. Through this subscription, SPIN is free for current NDSU faculty, staff, and students.

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

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

[Contact Us](#)



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*We collectively acknowledge that we gather at NDSU, a land grant institution, on the traditional lands of the Oceti Sakowin (Dakota, Lakota, Nakoda) and Anishinaabe Peoples in addition to many diverse Indigenous Peoples still connected to these lands. We honor with gratitude Mother Earth and the Indigenous Peoples who have walked with*

*her throughout generations. We will continue to learn how to live in unity with Mother Earth and build strong, mutually beneficial, trusting relationships with Indigenous Peoples of our region.*