NDSU OFFICE OF RESEARCH AND CREATIVE ACTIVITY

RCA UPDATE

October 16, 2023

IT'S HAPPENING TODAY!

BisonSpark TALKS

October 16, 23 and 30
3-4:30 p.m.

Short talks about NDSU research to ignite conversation

Join emcee Kaylee Weigel (NDSU graduate student and NDSU Student Government President) and our presenters today for our first BisonSpark Talks!

- Ryan McGrath
- Xinhua Jia
- Natasha Fillmore

- Ruilin Tian

BisonSpark Talks will be held on three Mondays in October (16, 23, and 30) from 3:00 to 4:30 in the Oceti Sakowin Ballroom in the Memorial Union at NDSU.

Learn more >>

NDSU researchers among top cited scientists in world

NDSU researchers are among the top 100,000 scientists in the world based upon an annual list compiled by Stanford University. The list, published on 10-4-23, ranks over six million researchers from 22 fields based on various basic citation indicators. The measurements include the number of citations received by the scientist's research articles and research output over the past year and career.

The rankings are split into the single latest year (2022) and cumulative career scores. This year, NDSU has 24 current researchers on the 2022 list and 28 on the career list.

The list is called "Updated science-wide author databases of standardized citation indicators" and includes individuals who have published at least five scientific papers and provides each with a ranking based upon criteria including the researcher's citations. Stanford compiles the list utilizing data from the abstract and citation database Scopus.

"The range of disciplines reflected by the NDSU researchers on this list shows the breadth of NDSU's research excellence," commented Colleen Fitzgerald, vice president for research and creative activity at NDSU.

NDSU RESEARCHERS ON THE 2022 LIST
- Benjamin Davis Braaten
- Bingcan Chen
- L. P. Reynolds
- Michael D. Robinson

- Buddhadev Layek
- Dean C. Webster
- Dinesh R. Katti
- Jagdish Singh
- Jeremy Straub
- Jiajia Rao
- K. Hoang
- Kalidas Shetty
- Kalpana S. Katti
- Kristine J. Steffen
- Mukund P. Sibi
- Ned A. Dochtermann
- Ryan Mcgrath
- S. G. Croll
- Samiran Banerjee
- Scott A. Wood
- Seth C. Rasmussen
- Simone A. Ludwig
- Xuefeng Chu
- Ying Huang

NDSU RESEARCHERS ON THE CAREER LIST

- Abraham A. Ungar
- Alan R. Denton
- D. A. Redmer
- Dean C. Webster
- Dennis E. Tallman
- Dinesh R. Katti
- Erik K. Hobbie
- Ghodrat Karami
- Jagdish Singh
- Jeremy Straub
- K. Hoang
- Kalidas Shetty
- Kalpana S. Katti
- Kevin D. McCaul
- L. P. Reynolds
- Marinus L. Otte
- Michael D. Robinson
- Mukund P. Sibi
- Nikita Barabanov
- Philip Raymond Boudjouk
- Qifeng Zhang
- S. G. Croll
- Scott A. Wood
- Seth C. Rasmussen
- Simone A. Ludwig
- Stephen P. Foster
- Sylvio May
- Xiang Fa Wu

Congratulations to everyone included on these lists!

RCA welcomes Doolittle and Evans

James (Jim) Doolittle joins the ND EPSCoR team as a project manager/project administrator and Angela (Angie) Evans joins RCA as a building operations coordinator.

Jim served most recently as the director of the South Carolina EPSCoR Program and previously served as the director of the North-Central Sun Grant Center at South Dakota State University (SDSU), a $57M program with funding from four federal agencies. He has familiarity with managing large, multi-institutional awards and was the associate vice president for research assurance and sponsored programs at SDSU. In this role, he oversaw a team of individuals who expanded pre-award services and increased the number of applications for extramural funding by 160%. Jim also served as the research/grants liaison on the SDSU Wokini Leadership Council building relationships with Tribal colleges, universities, and communities in South Dakota. Jim will report to Jolynne Tschetter.

For the past two years, Angie served as an administrative clerk in NDSU Residence Life and she has many years of previous experience in various administrative and sales positions. Angie will be assisting the department with a number of duties including day-to-day facility operations, managing tenant activities, accounting related duties, and other administrative tasks. Angie will report to Becky Hellman Tangen.

Welcome to the team Angie and Jim!

Dionna Martel moving to Arts & Sciences

Sponsored Programs Administration (SPA) Proposal & Award Officer Dionna Martel has accepted a new role as a Business Coordinator with the NDSU College of Arts & Science, effective 10/18/23.

Dionna has been part of the SPA team since February 2021 and she has been with NDSU since September of 2012. While we are very sad to see her leave SPA, we are also excited for her and her new opportunity -- NDSU is fortunate to retain Dionna's years of experience and institutional knowledge. Please join everyone in RCA in wishing Dionna good luck in her new role!

If you previously contacted Dionna directly for SPA support or questions, please send any such inquiries to ndsu.research@ndsu.edu. It is anticipated that SPA will be initiating a search soon to fill the vacancy left by Dionna's departure.

Tax Exempt Status for Proposal Submission Eligibility

We occasionally see funding opportunities that require the applicant to have a 501(c)(3) status to be eligible to submit a proposal. Unfortunately, NDSU does not meet this requirement and additional review may be necessary. When reviewing eligibility for funding, keep in mind that:

- NDSU is tax exempt under IRS code 170(c)(1) as a public/state-controlled institution of higher education.

- A 501(c)(3) is either a private organization with tax exempt charitable status or a public charity. NDSU is not eligible for this designation.

Documentation of NDSU's tax-exempt status can be found on the Research website under For Researchers – Proposal Development - Institutional Information – Frequently Used Information.

If you are interested in a funding opportunity that includes the 501(c)(3) eligibility criterion, we encourage you to contact the sponsor prior to submission to confirm eligibility. Sponsors may be willing to accept proposals from an institution of higher education if it matches the intent of the funding opportunity. When routing the proposal through Novelution, please upload an email or other communication from the sponsor confirming eligibility.

Questions can be sent to ndsu.research@ndsu.edu or 701-231-8045.

FY 2024 Research Equipment Repair Matching Program funds now available

The Office of Research and Creative Activity has opened a request for funds from the Fiscal Year 2024 *Research Equipment Repair Matching Program*. RCA has a small pool of funds available to provide a match to college or department expenditures specifically for research equipment repair that can be completed by June 15, 2024.

- For departmental / unit requests, priority will be given to equipment that is used by multiple researchers and that has a match of at least 33%.

- For Service / Recharge Centers and Core Facilities, priority will be given to requests that have at least a 50% match.

Funds must be spent no later than June 15, 2024.

Individual researchers are eligible to receive one award (one piece of equipment) per fiscal year. Applications will be reviewed on a rolling basis, and will be processed in the order received. Awards will be made until all funds are allocated.

This program is for research-related equipment repair only.

More information and application >>

Overview of Federal Funding Opportunities for the Behavioral and Social Sciences, Arts, and Humanities (October 10, 2023)

Lewis-Burke Associates, NDSU's federal relations firm, has updated their Overview of Federal Funding Opportunities for the Behavioral and Social Sciences, Arts, and Humanities.

While not exhaustive, the overview provides information on a wide range of federal agencies and programs. Interested investigators should check individual solicitations for details, as deadlines may quickly approach. Investigators may also use this document to identify relevant programs and develop proposals and strategies for federal agency engagement.

Read the overview (requires NDSU login) >>

NIH Research Enhancement Award (R15) Eligibility

NDSU is now eligible to submit applications to both NIH R15 opportunities during federal fiscal year 10/1/23 – 9/30/24. Links to the funding opportunity announcements (FOA's) are included below.

- Research Enhancement Award Program (REAP) for Health Professional Schools and Graduate Schools
- Academic Research Enhancement Award for Undergraduate-Focused Institutions (AREA)

Send questions to ndsu.research@ndsu.edu or 701-231-8045.

SciENcv: Required by NSF for BioSketches
Effective October 23, 2023

Science Experts Network Curriculum Vitae (SciENcv) is a new electronic system that helps researchers assemble the professional information needed for participation in federally funded research. SciENcv gathers and compiles information on expertise, employment, education and professional accomplishments.

Researchers can use SciENcv to create and maintain biosketches that are submitted with grant applications and annual reports. SciENcv allows researchers to describe and highlight their scientific contributions in their own words.

What SciENcv does:

- Eliminates the need to repeatedly enter biosketch information
- Reduces the administrative burden associated with federal grant submission and reporting requirements
- Provides access to a researcher-claimed data repository with information on expertise, employment, education, and professional accomplishments
- Allow researchers to describe their scientific contributions in their own language

More information >>

NSF Public Access Repository Updates

Effective October 2, 2023, the National Science Foundation (NSF) updated the NSF Public Access Repository (NSF-PAR) system with a new, streamlined submission workflow enabling NSF award recipients to add and manage journal articles, conference papers, conference proceedings, datasets, and workshop reports as separate and distinct products, and allowing products with a digital object identifier (DOI) from Crossref.org or DataCite.org to integrate seamlessly into the NSF-PAR. **There are no changes to NSF's Public Access policy or project reporting**

requirements.

Updates include:

- Conference proceedings and workshop reports are new product types in the NSF-PAR. The NSF-PAR search and filter feature has been updated to include all five supported product types (journal articles, conference papers, conference proceedings, datasets, and workshop reports).

- The streamlined NSF-PAR workflow includes easy-to-use add, update, and delete functionality for each product type.

- Journal articles, conference papers, and conference proceedings can be added to the NSF-PAR with or without a DOI.

- Journal article and conference paper metadata auto-populated using a DOI or entered manually in the NSF-PAR will be auto-populated in NSF project reports. Dataset metadata entered in the NSF-PAR with a DOI will also be auto-populated in NSF project reports.

Remaining Listening sessions for NDSU Attending Veterinarian search process

Dr. Neil Dyer currently serves as the Attending Veterinarian (AV) for NDSU. In January 2024, he will reduce his appointment to half time and he plans to be fully retired in spring 2024.

Before finalizing the position description and advertising the position, VPR Fitzgerald is providing an opportunity for campus to have input into this important position and to share thoughts, ideas, and needs in terms of the AV responsibilities

moving forward.

Zoom options have been added to the remaining Listening Sessions. Join us:

- **Monday, October 16 3:00-4:00pm Memorial Union - Nueta Room (Staff) or** via Zoom
- **Tuesday, October 17 2:30-3:30pm Memorial Union – Meinecke Room (Faculty) or** via Zoom

Sessions will be facilitated by Dr. Julia Bowsher and Dr. John McEvoy.
In addition, written feedback may be submitted via Qualtrics. Your participation in this process is highly encouraged and appreciated.

Anonymized feedback from the listening sessions will be shared with VPR Fitzgerald and the Search Committee, which is in the process of being finalized.

2023 Conference on Computational Science
NDSU Memorial Union Oceti Sakowin Ballroom
Wednesday, October 18, 2023

The conference is the first of its kind, co-organized by NDSU's Information Technology (IT) Division and the Office of Research and Creative Activity (RCA). It brings together researchers from various research fields (agriculture, business, engineering, natural sciences, social sciences and humanities, and others) and aims to showcase and promote computational-related research at NDSU and foster interdisciplinary collaboration.

The one-day conference features over a dozen invited speakers from multiple colleges, a student poster session, as well as remarks/updates from university administrators. The talks are intended for a broad audience and represent different computational-related research areas at NDSU. The student posters can be more

technical and are expected to go into the research in more detail. Prizes will be awarded for the three best posters.

This in-person only event is open to the entire campus. The talks will run from 8:30 a.m. to 3:30 p.m., and the poster session from 3:30 to 5:00 p.m.

Learn more >>

NSF NEON Seminars and Resources

The National Science Foundation (NSF) National Ecological Observatory Network (NEON) provides data, resources, and science seminars. The current lineup of their Science Seminar Series, along with the associated Data Skills Webinars can be found here. Recordings of previous sessions are also available.

NEON also provides data skills tutorials and resources for those wishing to dive into NEON data. Upcoming events include:

- **October 31; 1-2:30pm** Data Skills Webinar: Ecological Forecasting, a workshop that will introduce the Ecological Forecasting Initiative Research Coordination Network's (EFI-RCN) NEON Forecast Challenge, and provide the associated information and materials. Challenge materials include easy-to-use software, tools, and templates that have been developed in the R programming language.
  Learn more and register for this webinar.

- **November 14; 1-2pm** Science Seminar: Using NEON microbial data to understand selective pressures on soil microbial communities. Join Peter

Chuckran of UC Berkeley for a talk on using NEON microbial data to understand selective pressures on soil microbial communities. This talk is part of the NEON Science Seminar Series.
Learn more and register for this webinar.

Research & Innovation Translation Partnerships in Point-of-Care Technologies

Calling all researchers, technology developers, clinicians, industry partners, regulatory administrators, non-government organization leaders, and investors! This upcoming conference and showcase will convene experts across the medical technology space, providing an outstanding opportunity to network and discuss complementary expertise and available resources. Share and disseminate best practices, leverage resources, and develop new collaborative opportunities to support the rapid development, commercialization, and implementation of innovative point-of-care and home-based diagnostic technologies.

Researchers, stakeholders and leaders will discuss through open forums how to further promote and facilitate strategic partnerships, along with potential pathways to archive/disseminate data analytics-based models and develop sample databases that will help researchers further explore potential spin-off applications of these technologies for preventive, personalized, and precision health care.

Join us for keynote talks, panel discussions, forums, an E-poster session, and more!

When: November 28-29, 2023
Where: Natcher Conference Center, NIH Bethesda Campus

Register to attend >>
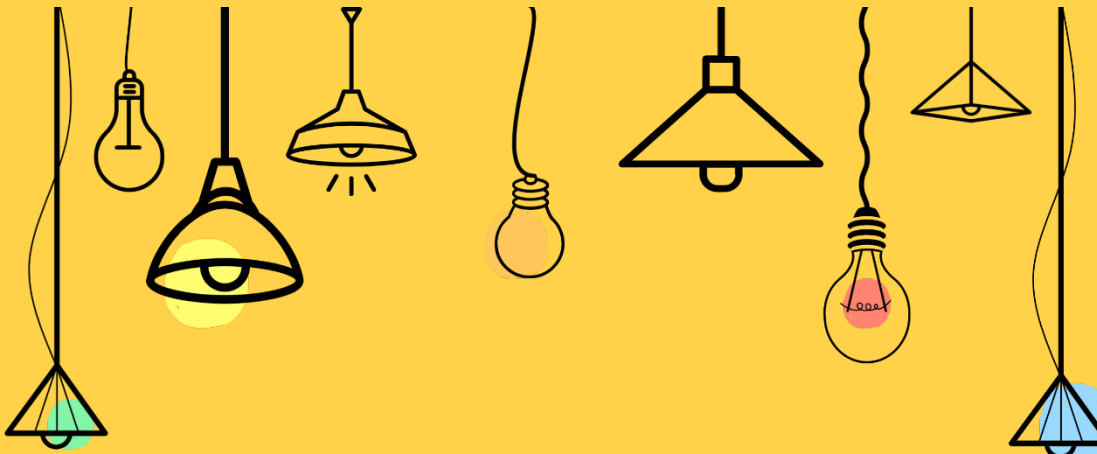
Have a big, bright idea about research at NDSU?

It's important that we continually challenge each other to come up with ambitious, big ideas in our research endeavors at NDSU. So we'd like to hear your ideas, and the bigger they are, the better.

While we can't promise all of them will succeed, we welcome you to share them - from an early concept or thought all the way to developed ideas that may just need some collaboration - send us an email (**bigideas@ndsu.edu**) and get the process started.

Upcoming Events at a Glance

- **BisonSpark Talks**
  October 16, 23, 30 | Learn More >>

- **Listening sessions for NDSU Attending Veterinarian search process**
  Monday, October 16 3:00-4:00pm Memorial Union - Nueta (Staff) or via Zoom
  Tuesday, October 17 2:30-3:30pm Memorial Union - Meinecke (Faculty) or via Zoom

- **2023 Conference on Computational Science**
  October 18, 2023 | Learn More >>

- **NSF: Track 2 Office Hours**
  October 26 at 1:30pm
  November 29 at 1:30pm
  December 20 at 1pm
  Learn More and Register >>
  Note – the 2024 internal competition is closed. However, if you are interested in the program for 2025, it is highly encouraged that you attend one of these sessions

- **I-Corps Updates Meeting**
  November 2, December 7 | Learn More >>

- **Specialized Centers of Research Excellence on Sex Differences (SCORE) 2023 Annual Meeting Keynote Address**
  November 3, 2023 | Learn More >>

- **Partnerships for Innovation (PFI) Q&A Webinar**
  December 2 | Learn More >>

- **Building Interdisciplinary Research Careers in Women's Health (BIRCWH) 2023 Annual Meeting**
  December 5, 2023 | Learn More >>

Funding Opportunities

- BASF: "Point-of-Care" Tool for DNA/RNA Detection
- BASF: Modeling Plants to Create a "Digital Twin"
- Columbia Journalism School: J. Anthony Lukas Work-in-Progress Award
- DOE: Building EPSCoR-State/National Laboratory Partnerships – **LIMITED**
- FFAR: New Innovator in Food and Agriculture Research – **LIMITED**
- Halo: Caffeine and Nootropics Research for Cognition and Energy
- Halo: Genome Editing with CRISPR in Vegetable Crops
- Halo: Treatment and Prevention of Chronic Inflammatory Skin Conditions
- Institute for the Study of the Ancient World: Visiting Research Scholar Program
- NEH: Digital Humanities Advancement Grants
- NEH: Sustaining Cultural Heritage Collections
- NIH: Fc-Dependent Mechanisms of Antibody-Mediated Killing
- NIH: NLM Grants for Scholarly Works in Biomedicine and Health
- NIH: Research Tools for Difficult to Culture Eukaryotic Pathogens
- NIH: RFI - Environmental Justice Research Gaps, Opportunities and Capacity Building
- NIH: RFI - Exploring the Role of Generative AI in Enhancing the use of Big Data in Heart, Lung, Blood and Sleep Research

- [NIH: RFI - On the Need for Research Studies to Evaluate Potential Effects of Types of Blood Pressure Reducing Agents on the Development of Mild Cognitive Impairment and Dementia](#)
- [NIH: Specialized Programs of Research Excellence in Human Cancers for Years 2024, 2025, and 2026](#)
- [NSF: Ethical and Responsible Research](#)
- [NSF: Human Networks and Data Science](#)
- [NSF: Ideas Lab - Personalized Engineering Learning](#)
- [NSF: Partnerships for Innovation – **LIMITED**](#)
- [NSF: Research on Innovative Technologies for Enhanced Learning](#)
- [NSF: Scholarships in STEM – **LIMITED**](#)
- [Tri-College University: Collaborative Grants](#)

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 ndsu.researchdev@ndsu.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 ndsu.researchdev@ndsu.edu.

- [NSF: Partnerships for Innovation](#)
  Notification Deadline: October 30, 2023
- [DOE: Building EPSCoR-State/National Laboratory Partnerships](#)
  Notification Deadline: November 1, 2023
- [NSF: Scholarships in STEM (S-STEM)](#)
  Notification Deadline: November 10, 2023 Track 2 and 3
  Notification Deadline: December 18, 2023 Track 1

- [FFAR: New Innovator in Food and Agriculture Research](#)
  Notification Deadline: December 21, 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.

- [W.M. Keck Foundation: Phase I](#)
  Deadline: November 1, 2023
- [DOE: Innovative Designs for High-Performance Low-Cost HVDC Converters](#)
  Deadline: November 14, 2023; 4pm
- [HRSA: National Rural Health, Policy, Community and Collaboration Program](#)
  Deadline: November 30, 2023
- [Mathers Foundation: Grant Program (STEM)](#)
  Deadline: LOI December 1, 2023
- [HRSA: Supporting Healthy Start Performance Project](#)
  Deadline: December 29, 2023
- [NIH: Leading Equity and Diversity in the Medical Scientist Training Program](#)
  Deadline: January 25, 2024

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BASF: "Point-of-Care" Tool for DNA/RNA Detection

The current assessment of GMO is done using lateral flow strips and by PCR. However, the current methodology requires sample transportation, processing, trained personnel and specialized lab equipment, which can be time and resource demanding. [Point-of-care tools](#) that could provide rapid results on the genetic quality of plant materials would reduce costs associated with centralized lab testing and allow timely decision making on the field.

Must-have requirements are:
The final product (after partnering with BASF) will need to pass the must-have

requirements for a DNA/RNA detection tool. These are not all required for an initial proposal:

- Flexible detection of larger genetic inserts or single nucleotide polymorphisms
- Analytical lead time < 30 mins (from sample receival to results)
- Require minimal or no purification of DNA/RNA prior to detection
- Analysis to be performed in a field, greenhouse, or warehouse-like environment
- Capable of detecting multiple targets simultaneously
- Robust, highly sensitive and potential for quantitative measurements
- End to end solution from reaction to a readout using hardware

The application takes about one hour to complete.

Deadline: November 30, 2023

BASF: Modeling Plants to Create a "Digital Twin"

"Digital Twins" are digital representations of real-world objects using structured, machine-readable data. A "Digital Twin" solution would enable the creation of customized modeling pipelines over a unitary data and modeling architecture, for example, to identify the role a gene or a set of genes plays in combination with environmental conditions for the occurrence of a certain phenotype. A "Digital Twin" of a plant would incorporate data and information at different anatomic levels, including data from proteomics, metabolomics, genomics, transcriptomics, as well as comprehensive gene annotation, associated phenotypes, and known interactions with chemicals. This data can be sourced from public databases and literature, but also from internal experiments. Knowledge graphs excel at capturing the complexity of the real world, and they store information in a way that's intuitive and are an ideal way to model "digital twin" data. BASF is seeking graph-based building and model-querying technologies that can be applied to model plants. They are also looking for large-language models and methods to integrate data from different physiological levels and different plants. We are open to partnering on earlier-stage research to achieve these objectives "from the ground up" or identifying partners with existing solutions.

The application takes about one hour to complete.

Deadline: November 30, 2023

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Columbia Journalism School: J. Anthony Lukas Work-in-Progress Award

Two J. Anthony Lukas Work-in-Progress Awards, in the amount of $25,000, are given annually to aid in the completion of significant works of nonfiction on topics of American political or social concern. Recognizing that a nonfiction book based on extensive research often overtaxes the resources available to its author, the project envisions the Awards as a way of closing the gap between the time and money an author has and the time and money that finishing a book requires.

Deadline: December 7, 2023

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DOE: Building EPSCoR-State/National Laboratory Partnerships – 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. Email notifications of interest to ndsu.researchdev@ndsu.edu by **close of business** on the notification deadline date.

Notify RCA by November 1, 2023, 5pm if you are interested in submitting to this program.

DOE's Established Program to Stimulate Competitive Research (EPSCoR) program is interested in receiving applications for [Building EPSCoR-State/DOE-National Laboratory Partnerships](). Grant partnerships awarded under this program are intended to advance understanding of the physical world by supporting fundamental, early-stage energy research collaborations with DOE National Laboratories.

The collaborative research must address early-stage scientific research in the physical, biological, or engineering sciences. The research must be of public benefit and relevant to DOE's Congressionally-authorized mission. Topical research areas must be identified on the cover of the pre-application and on the application with respect to the relevant DOE program office or offices and the office's specific program goals/research areas. Crosscutting priority areas for the Office of Science include research related to clean energy and climate research, quantum information science, microelectronics, and data science enabled by artificial intelligence (AI) and machine learning (ML).

Applicants must propose scientific collaborations that partner academic institutions of higher education in EPSCoR jurisdictions and research staff at DOE National Laboratories. These partnerships should leverage capabilities of DOE National Laboratories, particularly their user facilities. Participation by undergraduate students, graduate students, or postdoctoral fellows is required. Early career faculty from EPSCoR jurisdictions are encouraged to apply.

IMPORTANT NOTE: The above information is from last years solicitation. This competition is being run in anticipation of the upcoming solicitation.

LIMITED SUBMISSION: Three applications are allowed per Institution.

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FFAR: New Innovator in Food and Agriculture Research – 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. Email notifications of interest to ndsu.researchdev@ndsu.edu by **close of business** on the notification deadline date.

Notify RCA by December 21, 2023, 5pm if you are interested in submitting to this program.

The New Innovator in Food & Agriculture Research Award provides early-career scientists the investment needed to propel them into successful research careers. Young faculty in the sciences often struggle to secure grant funding. The Foundation for Food and Agriculture established the New Innovator Awards to launch the careers of promising scientists whose research addresses significant food and agriculture challenges. These awards allow the grantees to focus exclusively on research without the pressure of securing additional funding.

LIMITED SUBMISSION: Only one application per Institution.

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Halo: Caffeine and Nootropics Research for Cognition and Energy

Nootropics, also referred to as "smart drugs" are a diverse group of medicinal substances whose action improves human thinking, learning, and memory. Research around the interaction and synergistic effects of caffeine and nootropics have been growing at a steady pace, however their exact effects and mechanism of action are unclear. Further understanding of these compounds is warranted to optimize health outcomes as it relates

to cognitive and physical performance. Research investigating caffeine potentiation or natural caffeine alternatives is growing in order to meet these unmet needs of consumers. The Private Company is seeking tools, collaboration, and subject matter expertise to help understand the effects of caffeine and nootropics on cognitive and energy related outcomes in the context of a caffeinated beverage.

Our must-have requirements are:

- Solutions must be intended for and appropriate for oral ingestion
- Solutions must be Generally Recognized As Safe (GRAS) or have a strong reason to believe they can achieve GRAS designation
- Solutions must have at least a clear hypothesis for how they potentiate the effects of caffeine or are capable of replacing caffeine entirely

The application takes about one hour to complete.

Deadline: November 30, 2023

Halo: Genome Editing with CRISPR in Vegetable Crops

The Private Company is seeking expertise in genome editing with CRISPR to enhance vegetable crops. We aim for genome editing approaches focused on known candidate genes within the plant genome, resulting in a targeted inversion of 2 Mbp, effectively linking two beneficial genes. To achieve this, we are looking for collaborations with experts currently having all the necessary genome editing laboratory capabilities. The ultimate objective is to attain genome-edited plants, and we are open to sponsoring research collaborations that align with this goal.

Our must-have requirements are:

- Applicants must have access to genome editing facility
- Applicants must have the ability to produce genome edited plants containing the desired genome modification and without off-target genome edits

The application takes about one hour to complete.

Deadline: November 30, 2023

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Halo: Treatment and Prevention of Chronic Inflammatory Skin Conditions

A global fortune 500 company is seeking research and technologies related to the treatment or prevention of chronic inflammatory skin conditions (e.g., atopic and allergic dermatitis). Current therapies have daily or monthly dosing regimens. Longer duration therapies would be a more effective and convenient treatment option for some patients. The Company is seeking therapeutic or preventative approaches to chronic inflammatory skin conditions that can achieve long duration of modulated disease progression or severity. They are open to research in the proof-of-concept phase or more mature solutions that show the potential to reduce inflammation for 6+ months. If a technology could potentially treat other similar conditions (e.g. asthma) that could be of interest.

The application takes about one hour to complete.

Deadline: November 30, 2023

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Institute for the Study of the Ancient World: Visiting Research Scholar Program

The Institute for the Study of the Ancient World (ISAW) is a center for advanced scholarly research and graduate education, which aims to encourage particularly the study of the economic, religious, political and cultural connections between ancient civilizations. In an effort to embrace a truly inclusive geographical scope while maintaining continuity and coherence, the Institute focuses on the shared and overlapping periods in the development of cultures and civilizations around the Mediterranean basin, and across

central Asia to the Pacific Ocean. The approaches of anthropology, archaeology, geography, geology, history, economics, sociology, art history, digital humanities, and the history of science and technology are as integral to the enterprise as the study of texts, philosophy, and the analysis of artifacts.

ISAW anticipates appointing visiting scholars in several different categories for the 2024-25 academic year. Applicants in all categories should be individuals of scholarly distinction or promise in any relevant field of ancient studies who will benefit from the stimulation of working in an environment with colleagues in other disciplines. Scholars with a history of interdisciplinary exchange and scholars whose academic interests include parts of the ancient Old World that are often underrepresented in traditional academic departments, including Africa, Central Asia, South Asia, and Southeast Asia, are especially welcome and encouraged to apply.

ISAW hosts visiting scholars in three categories:

- Two-Year Visiting Assistant Professors
- One-Year Visiting Research Scholars
- Externally-Funded Research Scholars

Deadline: November 20, 2023

NEH: Digital Humanities Advancement Grants

The Digital Humanities Advancement Grants program (DHAG) supports innovative, experimental, and/or computationally challenging digital projects, leading to work that can scale to enhance scholarly research, teaching, and public programming in the humanities.

The DHAG program supports projects at different phases of their lifecycles that respond to one or more of these programmatic priorities:

- Research and refinement of innovative, experimental, or computationally challenging methods and techniques

- Enhancement or design of digital infrastructure that contributes to and supports the humanities, such as open-source code, tools, or platforms
- Evaluative studies that investigate the practices and the impact of digital scholarship on research, pedagogy, scholarly communication, and public engagement

Deadline: Optional Draft – November 13, 2023; Final Draft – January 11, 2024

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NEH: Sustaining Cultural Heritage Collections

Cultural institutions, including libraries, archives, museums, and historical organizations, face an enormous challenge: to preserve humanities collections that facilitate research, strengthen teaching, and provide opportunities for lifelong learning. To ensure the preservation of books and manuscripts, photographs, sound recordings and moving images, archaeological and ethnographic artifacts, art, and historical objects, cultural institutions must implement measures that slow deterioration and prevent catastrophic loss from emergencies resulting from natural or human activity. They can accomplish this work most effectively through preventive conservation. Preventive conservation encompasses managing relative humidity, temperature, light, and pollutants in collection spaces; providing protective storage enclosures and systems for collections; and safeguarding collections from theft, fire, floods, and other disasters. There are two levels of funding. Level I encompass discrete preservations challenges at small to mid-sized institutions that have already undergone a preservation assessment and are ready to implement small-scale improvements to environmental conditions and other sustainable conservations measure. Level II provides funding for institutions of any size that have completed interdisciplinary planning and are prepared to implement more extensive preventive conservation projects.

Deadline (anticipated): January 12, 2024

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NIH: Fc-Dependent Mechanisms of Antibody-Mediated Killing (R01 Clinical Trial Not Allowed)

The purpose of this funding opportunity (FO) [RFA-AI-23-054] is to support basic research that will elucidate mechanisms of Fc-mediated antibody functions, including antibody-dependent cellular cytotoxicity (ADCC) and antibody-dependent cell-mediated phagocytosis (ADCP). Supported studies are expected to generate foundational data and tools that can be applied to the prediction of Fc-mediated killing activity by antibodies. Such data should accelerate development of therapeutic monoclonal antibodies and design of vaccines or vaccine-adjuvant combinations that induce antibody responses capable of killing infected host cells, particularly in cases where induction of neutralizing antibodies fails or is insufficient for clearance of infection.

Deadline: LOI December 26, 2023

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NIH: NLM Grants for Scholarly Works in Biomedicine and Health (G13 Clinical Trial Not Allowed)

The National Library of Medicine (NLM) awards Grants for Scholarly Works in Biomedicine and Health [PAR-23-183] for the preparation of **book-length manuscripts** and other works of academic and/or public health value to U.S. health professionals, public health officials, biomedical researchers, historians of the health sciences, and scholars of all disciplines working at the intersection of the digital humanities/data science and the history of the health sciences. Grants are awarded for major critical reviews, state-of-the-art summaries, historical studies, and other useful organizations of knowledge in clinical medicine, public health, biomedical research, and informatics/information sciences. Regardless of topic, there should be clear evidence that the scholarly work proposed fills a void and has considerable usefulness to the intended audience.

This Funding Opportunity (FO) is being released to assist scholars in biomedical fields since they often face competing demands for their time, including requirements for clinical care services, teaching, research and administrative duties. Therefore, it is the intent of this FO to provide for a grant award that will provide significant protected time to support the

writing of a scholarly work that reflects thoughtful analysis and synthesis. Given that this award will only cover two years of support, it is expected that applicants have their ideas well solidified, and all materials needed to write the scholarly work collected before applying to this FO.

Deadline: LOI January 26, 2024

NIH: Research Tools for Difficult to Culture Eukaryotic Pathogens (R61/R33 Clinical Trial Not Allowed)

This Funding Opportunity (FO) [RFA-AI-23-055] will support high risk, milestone-driven research to support tool discovery for the development of genetic manipulation and/or long-term in vitro/ex vivo culture conditions for these select pathogens. Given the focus of this research, collaborative research teams will need to apply approaches and techniques that may not be common to a single scientific area. Thus, cross-collaborative, multi-disciplinary efforts from other fields may be required to overcome longstanding scientific hurdles. Given that collaborative efforts among multiple individuals with focused expertise may represent a recent alliance specific to this FO activity, substantial preliminary data are not required. The exquisite host tropism of these pathogens may necessitate that *non-human pathogenic species* serve as models while developing these basic research tools. Strategies should represent a significant advance for the field and yield transformational tools that can be easily adapted by the research community.

Specific Areas of Research Interest
Examples of in scope research include, but are not limited to:

- Development and/or optimization of primary cell culture, stem cell technology, air-liquid interface systems, organoid models, or unique in vivo model systems to support stable pathogen replication that represent a major advance over current standards.
- Development of tools for genetic manipulation to enable insertion, deletion, or overexpression of genes within these select pathogens

NIH: RFI - Environmental Justice Research Gaps, Opportunities and Capacity Building

The National Institutes of Health (NIH) Environmental Justice Working Group invites feedback on the approaches NIH Institutes, Centers, and Offices can take to support research and capacity building efforts to advance environmental justice in the U.S. and globally [NOT-ES-23-016]. Additionally, Request for Information (RFI) responses will enable the NIH Environmental Justice Working Group to be responsive to Executive Order 14096 on Revitalizing Our Nation's Commitment to Environmental Justice for All, and to synergize NIH efforts with other Federal Agencies in a whole-of-government approach to advance environmental justice.

This RFI invites comments from communities with environmental justice concerns, scientific researchers, community-based organizations, consumer advocacy groups, service agencies, health care providers, policymakers and the public. This RFI seeks to identify gaps and opportunities pertaining to environmental justice research and training as well as capacity building needs in areas listed below and highly encourages responses on related topics that are not listed.

- Transformative Environmental Justice Research and Action
- Scientific Infrastructure to Support Environmental Justice Research
- Community Partnerships to Address Environmental Injustices
- Diverse and Inclusive Workforce to Advance Environmental Justice
- Science Communication and Dissemination of Research Findings
- Science, Research, and Data that would support Federal Environmental Justice Actions

All responses should be submitted electronically at the RFI submission website by *11pm on December 15, 2023*.

NIH: RFI - Exploring the Role of Generative AI in Enhancing the use of Big Data in Heart, Lung, Blood and Sleep (HLBS) Research

This Request for Information (RFI) seeks input on how Generative Artificial Intelligence (AI) can be employed to enhance the use and integration of big data (e.g., omics data) in clinical measurements and high-throughput omics screening in heart, lung, blood, and sleep (HLBS) research [NOT-HL-23-097].

Topics of interest include, but are not limited to, the following:

- Current biomedical research use-cases for integrating and interpreting clinical measurements and high-throughput omics data
- Resources needed for the HLBS research community to effectively use Generative AI
- Strategies for employing "foundation" models in the analysis of omics data and high-throughput screening data
- Challenges and barriers to incorporating Generative AI into omics research and other big data, and ways that these challenges might be mitigated/addressed
- Best practices for using Generative AI to develop hypotheses from existing data
- Types of training needed for the HLBS research community to effectively incorporate Generative AI in research
- Specific HLBS research questions that could be addressed using Generative AI
- Safeguards or protocols necessary to ensure the ethical use of Generative AI in patient/participant data analysis and for HLBS research
- Validation and verification of Generative AI insights
- Identification and mitigation of bias in Generative AI models for HLBS research
- Any publications or examples that showcase the use of Generative AI models or Large Language Models in harmonizing the phenotypes across various cohorts

All comments must be submitted electronically on the submission website.

Responses must be received by 11PM on December 5, 2023.

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NIH: RFI - On the Need for Research Studies to Evaluate Potential Effects of Types of Blood Pressure Reducing Agents on the Development of Mild Cognitive Impairment and Dementia

The National Institute on Aging (NIA) and National Heart, Lung and Blood Institute (NHLBI) request input on the need for research studies to evaluate potential effects of types of blood pressure reducing agents on the development of mild cognitive impairment and dementia [NOT-AG-23-039]. There have been recommendations in the literature for additional research on the hypothesis that, compared to anti-hypertensive drugs that inhibit type 2 and 4 angiotensin II receptors, anti-hypertensive drugs that stimulate type 2 and 4 angiotensin II receptors reduce the incidence of mild cognitive impairment and/or dementia in older adults with hypertension. This hypothesis could be further explored in observational studies using causal interferences methods, randomized trials primarily focused on psychometric outcomes, or phase 3 trials on mild cognitive impairment and/or dementia.

This Request for Information (RFI) solicits comments and suggestions on the aforementioned approaches, their combinations, or novel ideas that are most appropriate at this stage of our scientific knowledge. NIA and NHLBI seek input from all interested stakeholders, including researchers, clinicians, academic institutions, medical institutions, professional organizations or societies, as well as other interested members of the public. Organizations are strongly encouraged to submit a single response that reflects the view of their organization and membership as a whole. A synopsis of your preferred option or options would be welcomed.

Comments should be submitted electronically by email to: romashks@nia.nih.gov.

Responses must be received by 11pm on December 31, 2023.

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NIH: Specialized Programs of Research Excellence (SPOREs) in Human Cancers for Years 2024, 2025, and 2026 (P50 Clinical Trial Required)

Through this Funding Opportunity (FO) [PAR-23-284], the National Cancer Institute (NCI) invites applications for P50 Research Center Grants for Specialized Programs of Research Excellence (SPORE). Based on the research proposed, applications may be jointly funded with the National Institute of Dental and Craniofacial Research (NIDCR). The program will fund P50 SPORE grants to support state-of-the-art investigator-initiated translational research that will contribute to improved prevention, early detection, diagnosis, and treatment of an organ-specific cancer or a highly related group of cancers. For the purpose of this FO, a group of highly related cancers are those that are derived from the same organ system, such as gastrointestinal, neuroendocrine, head and neck, and other cancers. Other programmatically appropriate groups of cancers may include those centered around a common biological mechanism critical for promoting tumorigenesis and/or cancer progression in organ sites that belong to different organ systems. For example, a SPORE may focus on cancers caused by the same infectious agent or cancers promoted and sustained by dysregulation of a common signaling pathway. In addition, a SPORE may focus on cross-cutting themes such as pediatric cancers or cancer health disparities. The research supported through this program must be translational and must stem from research on human biology using cellular, molecular, structural, biochemical, and/or genetic experimental approaches. SPORE projects must have the goal of reaching a translational human endpoint within the project period of the grant.

Deadline: LOI December 25, 2023

NSF: Ethical and Responsible Research (ER2)

The Ethical and Responsible Research (ER2) program [NSF 23-630] aims to support fundamental research about what constitutes or promotes responsible and ethical conduct of research (RECR). The ER2 program seeks to encourage science, technology, engineering and mathematics (STEM) researchers, practitioners and educators at all career stages to conduct research with integrity and to educate others about RECR. Research questions of interest to the program could address ethical issues involving diversity, equity, inclusion, accessibility, bias, culture, transparency and mentoring or other interpersonal behaviors in research environments, as well as the following:

- What constitutes responsible and ethical conduct of research (RECR) and why?
- What are the similarities and differences between RECR norms in different fields, sectors (for example, academia, industry and non-profit), or locations (states, regions or countries), and what can they learn from one another in terms of promoting ethical research practices?
- Which organizational practices, contexts, and incentives promote ethical and responsible STEM research and why?
- Which practices contribute to establishing and maintaining ethical cultures, and how can these practices be transferred and integrated into other research and learning settings?

Deadline: January 25, 2024

NSF: Human Networks and Data Science (HNDS)

The Human Networks and Data Science program (HNDS) [NSF 23-568] supports research that enhances understanding of human behavior by leveraging data and network science research across a broad range of topics. HNDS research will identify ways in which dynamic, distributed, or heterogeneous data can provide novel answers to fundamental questions about individual or group behavior. HNDS is especially interested in proposals that provide data-rich insights about human networks to support improved health, prosperity, and security.

HNDS has two tracks:
Human Networks and Data Science – Infrastructure (HNDS-I). Infrastructure proposals will address the development of data resources and relevant analytic techniques that support fundamental Social, Behavioral and Economic (SBE) research. Successful infrastructure proposals will construct, within the financial resources provided by the award, databases or relevant analytic techniques and produce a finished product that will enable previously impossible data-intensive research in the social sciences.

- *Deadline: February 1, 2024*

Human Networks and Data Science – Core Research (HNDS-R)

Core research proposals will advance theory in a core SBE discipline by the application of data and network science methods. This includes the leveraging of large data sets with diverse spatio-temporal scales of measurement and linked qualitative and quantitative approaches, as well as multi-scale, multi-level network data and techniques of network analysis.

- Deadline for direct submissions to Human Networks and Data Science – Core Research (HNDS-R) **by permission only.**
  Deadline: January 11, 2024
- Submissions with HNDS-R as secondary do not require permission and should follow the primary program's submission dates.

NSF: Ideas Lab - Personalized Engineering Learning (PEL)

An Ideas Lab [NSF 23-627] is an intensive meeting that brings together multiple diverse perspectives to focus on finding innovative cross-disciplinary solutions to a grand challenge problem. The goal of the Personalized Engineering Learning Ideas Lab is to extend engineering education research to enable advanced personalization in pedagogy and assessment in a K-12 or higher education context. The following broad areas have been identified as possible avenues to advance knowledge: personalized engineering education, multimodal sensing for personalized learning systems and team-based personalized learning. This Ideas Lab aims to bring together experts from diverse scientific, engineering and education backgrounds to develop innovative technologies and solutions to achieve personalized learning for engineering education.

Deadline: Preliminary Proposal November 29, 2023

NSF: Partnerships for Innovation – 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 October 30, 2023, 5pm, if you are interested in submitting to this program. Additional upcoming notification deadlines: February 16, 2024 and May 15, 2024

The Partnerships for Innovation (PFI) Program [NSF 23-538] within the Division of Translational Impacts (TI) offers researchers from all disciplines of science and engineering funded by NSF the opportunity to perform translational research and technology development, catalyze partnerships and accelerate the transition of discoveries from the laboratory to the marketplace for societal benefit.

PFI has five broad goals:

1. identifying and supporting NSF-sponsored research and technologies that have the potential for accelerated commercialization
2. supporting prior or current NSF-sponsored investigators, institutions of higher education, and non-profit organizations that partner with an institution of higher education in undertaking proof-of-concept work, including the development of technology prototypes that are derived from NSF-sponsored research and have potential market value
3. promoting sustainable partnerships between NSF-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. providing professional development, mentoring, and advice in entrepreneurship, project management, and technology and business development to innovators.

LIMITED SUBMISSION: Only one application per Institution for the PFI-RP track per deadline.

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NSF: Research on Innovative Technologies for Enhanced Learning (RITEL)

The purpose of the Research on Innovative Technologies for Enhanced Learning (RITEL) [NSF 23-624] program is to support early-stage research in emerging technologies for teaching and learning that respond to pressing needs in authentic (real-world) educational environments. RITEL supports future-oriented exploratory and synergistic research in emerging technologies for teaching and learning. The program accepts proposals that focus on learning, teaching, or a combination of both. The scope of the program is broad and includes teaching and learning in science, technology, engineering, and mathematics (STEM) and in foundational areas that enable STEM (e.g., self-regulation, literacy, communication, collaboration, creativity, and socio-emotional skills). RITEL supports research in all learning contexts and for all learner populations. RITEL has a special interest in diverse learner/educator populations and in developing new educational technologies that are cost-effective for budget-limited school districts, colleges and universities. Research in this program should be informed by the convergence of multiple disciplines: e.g., learning sciences; discipline-based education research; computer and information science and engineering; design; and cognitive, behavioral, and social sciences. RITEL is unique in its requirement that projects must advance research in both learning (and/or teaching) and technology.

Deadline: January 24, 2024

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NSF: Scholarships in STEM (S-STEM) – 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 November 11, 2023, 5pm, if you are interested in submitting to this program (Track 2, Track 3).
Upcoming Notification Deadline: December 18 (Track 1).

The main goal of the S-STEM program [NSF 23-527] is to enable low-income students with academic ability, talent or potential to pursue successful careers in promising STEM fields. Ultimately, the S-STEM program seeks to increase the number of academically promising low-income students who graduate with a S-STEM eligible degree and contribute to the American innovation economy with their STEM knowledge. Recognizing that financial aid alone cannot increase retention and graduation in STEM, the program provides awards to institutions of higher education (IHEs) not only to fund scholarships, but also to adapt, implement, and study evidence-based curricular and co-curricular1 activities that have been shown to be effective supporting recruitment, retention, transfer (if appropriate), student success, academic/career pathways, and graduation in STEM.

Social mobility for low-income students with academic potential is even more crucial than for students that enjoy other economic support structures. Hence, social mobility cannot be guaranteed unless the scholarship funds the pursuit of degrees in areas where rewarding jobs are available after graduation with an undergraduate or graduate degree.

The S-STEM program encourages collaborations, including but not limited to partnerships among different types of institutions; collaborations of S-STEM eligible faculty, researchers, and academic administrators focused on investigating the factors that affect low-income student success (e.g., institutional, educational, behavioral and social science researchers); and partnerships among institutions of higher education and business, industry, local community organizations, national

labs, or other federal or state government organizations, as appropriate.

NDSU is **not** eligible for an S-STEM in biology.

LIMITED SUBMISSION: An Institution may submit up to two proposals for a given S-STEM deadline. These restrictions do NOT apply to the Collaborative Planning Grant Proposals.

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Tri-College University: Collaborative Grants

Tri-College University is a collaboration between Concordia College, Minnesota State University Moorhead, North Dakota State University, Minnesota State Community and Technical College (M State). Collectively, these institutions have more than 30,000 full and part-time students and more than 4,000 faculty, staff and other employees. TCU serves the students, faculty, staff and the community by combining resources in innovative ways. The purpose of this Tri-College program is to provide start up or one-time funding for collaborative programs for faculty, staff or students at Concordia College, Minnesota State University Moorhead, North Dakota State University and M State. Through the sharing of resources, a greater number of people can be positively impacted and efficiencies obtained. This TCU program is intended to develop collaborative relationships between people in our campus community who share a common interest, vision and purpose.

Deadline: November 1, 2023

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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 ndsu.researchdev@ndsu.edu.

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

Contact Us

The Office of Research and Creative Activity (RCA) sends bi-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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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.