NDSU RESEARCH AND CREATIVE ACTIVITY RESEARCH AND CREATIVE ACTIVITY

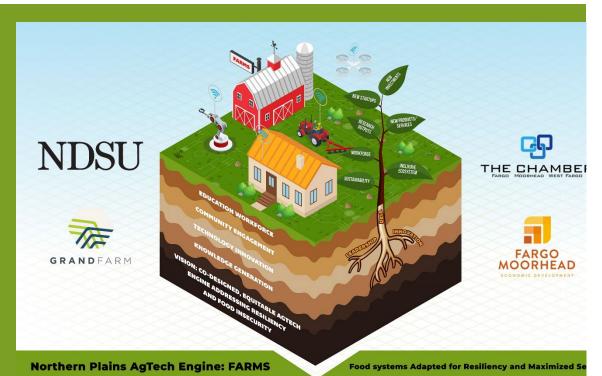
August 7, 2023

NSF Engines FARMS partnership group earns finalist spot in National Science Foundation \$160 million competition

The regional collaborative partnership known as FARMS (Northern Plains AgTech Engine for Food systems Adapted for Resiliency and Maximized Security) has reached the final stage of a nationwide competition that will provide winning teams with \$160 million funding over 10 years. FARMS is one of sixteen projects selected as finalists.

The National Science Foundation (NSF) Engines program aims to empower all regions of the country, including the Midwest, to capitalize on their strengths. A multi-faceted program, FARMS seeks to build upon North Dakota's reputation as a leader in AgTech and will deliver market-driven innovative research, education, workforce development, and DEIA (diversity, equity, inclusion, and accessibility) programs.

North Dakota Governor Doug Burgum commented on the potential of the project. "The FARMS project epitomizes the spirit of entrepreneurship and innovation that characterizes our state, especially when it comes to agriculture," he said. "From our researchers to our entrepreneurs, the people of North Dakota continue to drive solutions that have a major impact on the challenges facing our world. We're grateful to everyone involved with FARMS and wish the team all the best as they showcase North Dakota's leadership in ag technology and food production."



FARMS will solve issues related to food security and global food challenges with AgTech solutions. AgTech represents all technology used for improving yield, efficiency, and profitability in agriculture. Crucial to the commercialization process is the NDSU Research Foundation, which was most recently ranked in the 2022 Heartland Forward report at sixth (normalized) in terms of licenses and options issued and 117th overall and NDSU Extension, which has a presence in all fifty-three counties in North Dakota.

FARMS will drive AgTech research in areas such as developing new varieties of resilient crops along with the sensor systems required to maintain their optimal growing conditions. Additional research will implement cost-effective data collection that effectively integrates sensors distributed across all acres of a farm operation, laying vital groundwork for the smart and connected farms of the future.

As North Dakota is home to five sovereign tribal nations and the nation's only tribal college system, the five college North Dakota Tribal College System, FARMS aims to develop cross-cultural relationships in order to strengthen our collective ability to advance nation to nation ethical research collaborations.

With workforce issues top of mind nationally, it is critical for FARMS to enhance pathways

into STEM for homegrown talent while becoming a magnet to attract expertise from across the world. This starts with an inventory of the state's many distinct private, non-profit and educational organizations and their programming in the AgTech space, ultimately connecting them through the AgTech Knowledge Network.

Important AgTech workforce development will come from programming funded by the U.S. Economic Development Administration's Good Job Challenge recently awarded to the Fargo Moorhead West Fargo Chamber Foundation in Fargo.

"Agriculture is something we already know well in North Dakota," said NDSU Vice President for Research and Creative Activity Colleen Fitzgerald. "A recent economic impact study shows that agriculture contributes \$31 billion to the North Dakota economy and more than 110,000 jobs. FARMS will accelerate this ecosystem over the next decade making North Dakota THE undisputed national leader in AgTech."

<u>View the complete list of NSF Engines finalists >></u>



NDSU researchers receive funding for aging and genetic studies



Julia Bowsher, a professor of biological sciences at North

Dakota State University, has received a \$880,218 grant to fund a research project entitled "Collaborative Research: Insults for free: the roles of metamorphosis and dormancy in aging dynamics." This research aims to shed light on how metamorphosis and dormancy influence the aging process in bees.

This collaborative grant is a partnership between NDSU researchers Julia Bowsher, Kendra Greenlee and Britt Heidinger, USDA-ARS Staff Scientist Joe Rinehart and Michael Dillon of the University of Wyoming. The Integrative Ecological Physiology program and the Established Program to Stimulate Competitive Research (EPSCoR) have jointly funded this project.

Britt Heidinger, associate professor of biological sciences at North Dakota State University, has received a \$251,741 grant to fund a research project entitled "MCA: Identifying the genomic mechanisms mediating rapid responses to environmental change in a widespread

songbird."

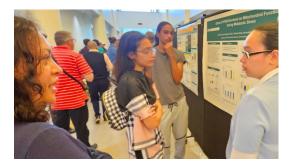
This study brings together modern genetic techniques with traditional methods to figure out how genes influence behavior. One part of the research focuses on a specific type of genetic information called SNPs and how they can help us accurately understand traits that are passed down from our ancestors along with how different genes work together. Ultimately, the goal is to improve the tools used to study genetics and create a stronger link between the information in our genes and how it impacts us. This project is being co-funded by Integrative Ecological Physiology and ND EPSCoR.

2023 Summer Research Poster Session

On August 4, more than 60 high school and undergraduate students who have been participating in summer research experiences at NDSU this summer presented their work in a poster session.

Participating programs included Green Chemistry, Pollination Nation, Collaborations in Discipline-based Education Research, INBRE Summer Undergraduate Research Program, USURE, IME (Industrial & Mechanical Engineering), and PICNICS.

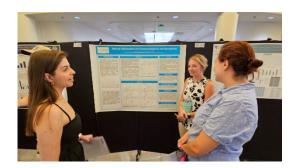




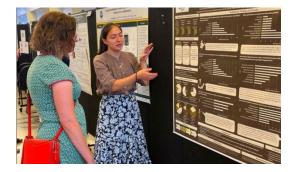














Industry collaborations are of increasing importance to academics — including those early in their career. This webinar focuses on early-care faculty, postdoctoral researchers, and staff scientists with the knowledge and tools to initiate and nurture successful partnerships with industry stakeholders.

The webinar will cover:

- Pursuit of industry and government funding;
- Campus support and resources;
- How to pitch a research idea to a potential industry sponsor;
- Common IP considerations for working with industry (upfront IP, open source/public dedication, NERF, commercial NERF); and
- Aligning expectations (timelines, budget, outcomes).

Speakers

- **Chase Kasper,** Senior Deputy Director, Founder of INSPIRE, Clemson University Research Foundation
- Sacha Patera, Corporate Engagement and Foundation Relations Office of Dean for Research Princeton University
- Kate Rice, Director of Outreach and Operations Northwestern University
- **Deborah Stokes,** External and Academic Research Chief Technology Office, Dell Technologies

Learn more about this webinar >>

Xurban Webinar featuring NSF Engines Type-2 FARMS core partners



Collaboration to Drive Economic Development Thursday, August 17, 2023 | 1-2 p.m. ET

Speakers

- Ryan Aasheim, Chief Business Development Officer, Greater Fargo Moorhead EDC
- Brian Carroll, Chief Innovation Officer, Emerging Prairie
- Colleen Fitzgerald, Vice President for Research and Creative Activity, NDSU
- Jenna Mueller, Executive Director, The Chamber Foundation, Fargo

Regional partnerships are a key characteristic of recent efforts to drive economic development in a number of large-scale research initiatives. U.S. examples include the NSF <u>Regional Innovation Engines</u> program and the Economic Development Administration (EDA) <u>Regional Technology Hubs</u>, where awardees are required to collaborate with local entities across sectors to advance technologies and innovation and catalyze growth and job creation.

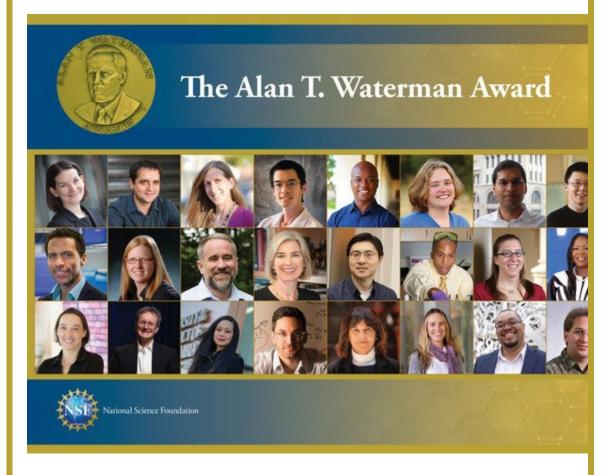
Fargo, ND, is a municipality that exemplifies leveraging regional partners with a shared community interest—in this case, agricultural technology (AgTech) to promote growth and innovation. With North Dakota State University (NDSU) as the community's university partner, an informal consortium has come together with three regional partners: the Fargo-Moorhead-West Fargo Chamber, the Greater Fargo Moorhead Economic Development Corporation, and Grand Farm to enhance community engagement in this rural region. By leveraging aligned missions, partner organizational strengths, and collaboration with companies like Microsoft and Bushel—tech companies focused on streamlining agricultural operations with digital tools—the region is poised to capitalize on its innovation potential in key technologies vital to the national interest, like uncrewed autonomous systems (UAS) and biotech. The density and interconnectedness of the region offer tremendous opportunities to strengthen and accelerate relationships to drive economic development, offering a strongly relational model for U-I partnerships that also stands as a finalist candidate for an NSF Engines Type-2 award.

This webinar will examine the strategies for building a multi-sector regional research coalition, identifying research strengths, finding common ground to partner, and what it takes to forge long-term partnerships.

Learn more about this webinar >>

Alan T. Waterman Award Call for Nominations Webinar

The Alan T. Waterman Award recognizes an outstanding early career researcher in any field of science or engineering supported by the U.S. National Science Foundation. The annual award is the nation's highest honor for early-career scientists and engineers. In addition to a medal, the awardee receives a grant of \$1,000,000 over a five-year period for scientific research or advanced study in the science and engineering disciplines supported by the National Science Foundation at the institution of their choice. Congress established the award in August 1975 to mark NSF's 25th anniversary and to honor the agency's first director.



NSF is seeking nominations for exceptional candidates that represent the diversity of the U.S. Nominations for the Alan T Waterman Award will be accepted from July 17 - September 15, 2023.

Webinar details: August 10, 2023 at 2:00 PM Eastern Time (US and Canada)

<u>Register</u> for the webinar.

Visit <u>www.nsf.gov/Waterman</u> for more information



Dear Colleagues,

Effective July 24, 2023, the National Science Foundation (NSF) made enhancements to the Project Reporting System in Research.gov to enable datasets and research materials to be entered as distinct product types that are managed and reviewed separately. This change improves project report data quality by listing each product type resulting from NSF funded research as a separate entry rather than a combined listing of multiple product types. Other changes include improved system messaging and an updated user interface to provide a more seamless look and feel for NSF award recipients. **There are no changes to NSF's Public Access policy or project reporting requirements.**

An updated <u>How to Add Datasets to the NSF-PAR and NSF In-progress Project Reports</u> guide and updated <u>How to Remove Datasets from the NSF-PAR and In-progress Project Reports</u> guide will be available on the Research.gov <u>About Public Access</u> page. Visit the <u>NSF Public</u> <u>Access Initiative</u> page for more information including the <u>NSF Public Access Plan 2.0 -</u> <u>Ensuring Open, Immediate and Equitable Access to National Science Foundation Funded</u> <u>Research</u> released earlier this year.

Questions? If you have IT system-related questions, please contact the NSF Help Desk at 1-800-381-1532 (7:00 AM - 9:00 PM ET; Monday - Friday except federal holidays) or via rgov@nsf.gov. Policy-related questions should be directed to policy@nsf.gov.

Regards, National Science Foundation

NSF policy for research at off-campus/off-site locations

The National Science Foundation (NSF) has a policy to "foster safe and harassment-free environments whenever science is conducted" (<u>NSF 2023 PAPPG Guide Chapter II. E.9</u>). This includes off-campus/off-site research locations, which NSF defines as "date/information/samples being collected off-campus or offsite, such as fieldwork or research activities on vessels and aircraft."



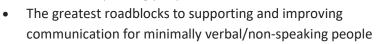
Faculty that submit proposals to the NSF that include off-campus/off-site research activities are required to check the "**OFF-CAMPUS OR OFF-SITE RESEARCH**" box on the NSF cover page. In addition, the PI must create a plan for a safe and inclusive work environment for that project and distribute that plan to each participant prior to departure for an off-campus research activity.

SPA has created a template that can be used as a starting point for these plans. This template can be found on the <u>SPA Proposal Development section</u> of the RCA Forms page, and is identified as "NSF Safe and Inclusive Working Environment Project Specific Information." Once created, the plan is maintained by the PI and is not submitted to the NSF.

Several BIO and GEO Directorates are piloting a requirement that proposals for offcampus/off-site research must include a two-page "Plan for Safe and Inclusive Working Environments" (SAI Plan) Supplementary Document. This SAI Plan is submitted to NSF and will be considered under the Broader Impacts review criterion. There is no institutional template as the SAI Plan is required to have project specific information. NSF has helpful FAQs to provide additional information for the BIO and GEO pilot programs. NIH: RFI - Inviting Input Regarding National Institute on Deafness and Other Communication Disorder's Research Directions to Support Communication in Minimally Verbal/Non-Speaking People

NIDCD invites anyone with interests in communication in minimally verbal/non-speaking people to provide input on any or all of the following topics from a personal, service delivery, or research view:

• The biggest communication needs for minimally verbal/non-speaking people

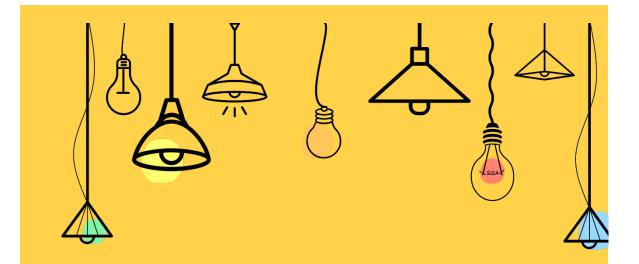


- The highest priority research targets to advance communication for minimally verbal/non-speaking individuals
- The best ways to increase partnerships between researchers and minimally verbal/non-speaking people to guide research projects

All responses to this RFI must be <u>submitted</u> by September 15, 2023.



National Institutes of Health



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

- NIH Office of Behavioral and Social Sciences Research Director's Webinar: The Theoretical and Practical Importance of Advancing Health Equity September 19, 2023 | <u>Register >></u>
- Specialized Centers of Research Excellence on Sex Differences (SCORE) 2023 Annual Meeting Keynote Address November 3, 2023 | Learn More >>
- Building Interdisciplinary Research Careers in Women's Health (BIRCWH) 2023 Annual Meeting December 5, 2023 | Learn More >>

Funding Opportunities

- <u>Corteva: Novel Solutions to Enable Intercropping Practices for Agricultural Intensification</u>
- DOE: Materials, Operation and Recycling of Photovoltaics
- Institute for Advanced Study: Mellon Fellowships for Assistant Professors
- <u>NASA: Habitable Worlds</u>
- <u>NEH: Dangers and Opportunities of Technology Perspectives from the Humanities</u>
- <u>NIH: Data Integration and Statistical Analysis Methods</u>
- NIH: Mechanisms of Fusion-Driven Oncogenesis in Childhood Cancers
- <u>NIH: Secondary Analysis and Integration of Existing Data to Elucidate Cancer Risk and</u>
 <u>Related Outcomes</u>
- <u>NIH: The Role of Sleep Deficiency in Persons with Type 1 Diabetes: Sleep, Glycemic</u> <u>Control, and Cardiovascular Risk</u>
- <u>NSF: Analysis</u>
- <u>NSF: Broadening Participation in Engineering</u>
- <u>NSF: Condensed Matter and Materials Theory</u>
- NSF: Ecology and Evolution of Infectious Diseases
- <u>NSF: Environmental Convergence Opportunities in Chemical, Bioengineering,</u> <u>Environmental and Transport Systems</u>
- NSF: Paleo Perspectives on Present and Projected Climate
- PepsiCo: Acid and Heat Stable Sweet Proteins for Beverage Application
- <u>RWJF: Health Policy Fellows</u>
- <u>The Gladys Krieble Delmas Foundation: Venetian Research Program</u>

Upcoming Limited Submission Program Deadlines

<u>Limited submission grant programs</u> 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 <u>ndsu.researchdev@ndsu.edu</u> 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 <u>ndsu.researchdev@ndsu.edu</u>.

There are no upcoming limited submissions.

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.

- HRSA: Health Center Program
- Deadline: 08/21/2023
- HRSA: Health Center Program AA
- Deadline: 08/21/2023
- USDA: School Foodservice Workforce Cooperative Agreement
- Deadline: 08/21/2023
- <u>NIH: Neuroscience Development for Advancing the Careers of a Diverse Research</u> <u>Workforce</u>
- LOI Deadline: 08/26/2023
- Johnson and Johnson: The WiSTEM2D Scholars Award Program
- Deadline: 09/30/2023

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Corteva: Novel solutions to enable intercropping practices for agricultural intensification

Corteva is seeking non-confidential proposals that describe a plan to demonstrate novel methods to enable <u>inter-seeding within a scalable intercropping system</u> involving corn, soybean, canola, sorghum, or wheat.

Solutions of interest include:

- Physical methods (equipment or hardware)
- Management practices applied to any crop in the system
- Seed treatments (chemical or physical)
- Breeding strategies
- Any other novel method or technology to address this challenge

Must-have requirements are:

- The multi cropping system includes a minimum of one traditional commodity crop (corn, soybean, canola, sorghum, or wheat)
- Novel methods that enable inter-seeding into a standing crop, seed germination at a desired time, or seedling establishment in an intercropping environment
- Scalable application (e.g., path to use at 100+ acre scale must be clearly described if not demonstrated in the proposed solution)

The application takes approximately 45 minutes and is less than 500 words.

Deadline: August 31, 2023

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DOE: Materials, Operation and Recycling of Photovoltaics (More PV)

Through this Funding Opportunity (FO) [DE-FOA-0002985], the Solar Energy Technologies Office (SETO) will provide funding for multi-stakeholder collaborations to reduce material usage, improve installation quality and resilience of PV systems, and address handling of PV systems at the end of life. This FO calls for diverse teams to assess impact of the developed technologies on all the life stages of PV systems in terms of energy use, cost, and environmental impact.

Topic Area 1: MORE Connection – Connecting PV Materials, Design, Installation, Performance and End of Life

Topic Area 2: Solar partnership to Advance Recycling and Circularity (Solar PARC)

Letter of Intent Deadline: September 6, 2023; 4PM

Institute for Advanced Study: Mellon Fellowships for Assistant Professors

The School of Historical Studies at the Institute for Advanced Study, with the support of the Andrew Mellon Foundation, established a program of one year memberships for assistant professors at universities and colleges in the United States and Canada to support promising young scholars who have embarked on professional careers. While at the Institute they will be expected to engage exclusively in scholarly research and writing.

The School supports approximately three scholars each year under the <u>Mellon Fellowships for</u> <u>Assistant Professors</u>. Appointments are for one academic year from September 1st until July 31st. The stipend will normally match the combined salary and benefits at the Member's home institution at the time of application, but the amount offered will be adjusted in the event the scholar receives simultaneous support from other sources.

Deadline: October 15, 2023

NASA: Habitable Worlds

The goal of the <u>Habitable Worlds</u> program is to use knowledge of the history of the Earth and the life upon it as a guide for determining the processes and conditions that create and maintain habitable environments (including transient environments) and to search for ancient and contemporary habitable environments and explore the possibility of extant life beyond the Earth. Theoretical and experimental studies will be considered, as well as quantitative terrestrial field experiments that improve scientific understanding of how in situ measurements at analog sites can or will improve our understanding of the potential for the environment to support life.

Notice of Interest: November 8, 2023

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NEH: Dangers and Opportunities of Technology - Perspectives from the Humanities

The <u>Dangers and Opportunities of Technology: Perspectives from the Humanities</u> (DOT) program supports research that examines technology and its relationship to society through the lens of the humanities, with a focus on the dangers and/or opportunities presented by technology. NEH is particularly interested in projects that examine the role of technology in shaping current social and cultural issues.

The DOT program is part of the NEH's American Tapestry initiative.

Deadline: October 11, 2023

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NIH: Data Integration and Statistical Analysis Methods (DISAM) (U01 Clinical Trial Not Allowed)

This Funding Opportunity (FO) [<u>RFA-HG-23-005</u>] solicits applications to develop innovative and generalizable statistical and computational methods for analysis of data from the human Developmental Genotype-Expression (dGTEx) and non-human primate (NHP dGTEx) projects. Methods that assess the influence of genetic variation on development, compare gene expression and regulation across tissues and time points, or leverage comparative genomics to understand developmental and evolutionary processes and integrate with existing tissue and cell atlas efforts are strongly encouraged.

LOI deadline: October 20, 2023

NIH: Mechanisms of Fusion-Driven Oncogenesis in Childhood Cancers

Through this Funding Opportunity (FO) [<u>RFA-CA-23-036</u>], the National Cancer Institute (NCI) intends to solicit applications for basic research projects investigating the molecular mechanisms by which fusion oncoproteins drive pediatric cancers. The overall goal of this solicitation and the companion FO, <u>RFA-CA-23-037</u>, is to form a new dynamic network of investigators that will use rigorous and collaborative efforts to advance our understanding of the mechanisms of action of fusion oncoproteins in pediatric cancers and to apply novel chemical strategies to accelerate innovative drug discovery and preclinical development of therapeutics for fusion oncoprotein-driven childhood cancers. This FO solicits U01 applications for discrete research projects focused on molecular mechanisms by which fusion oncoproteins drive pediatric cancers with the goal of identifying key factors involved in oncogenesis which could serve as critical dependencies or potential targets for therapeutic intervention.

LOI Deadline: November 15, 2023

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NIH: Secondary Analysis and Integration of Existing Data to Elucidate Cancer Risk and Related Outcomes

Through this Funding Opportunity (FO) [PAR-23-255], the National Cancer Institute (NCI) encourages submission of applications proposing to conduct secondary data analysis and integration of existing datasets and database resources, with the ultimate aim to elucidate cancer risk and related outcomes. The goal of this initiative is to address key scientific questions relevant to cancer by supporting the analysis of existing clinical, environmental, surveillance, health services, vital statistics, behavioral, lifestyle, genomic, and molecular profiles data. Applicants are encouraged to leverage and perform innovative analyses of the existing data. Applications may include new research aims that are being addressed with existing data, new or advanced methods of analyses, or novel combinations and integration of datasets that allow the exploration of important scientific questions in cancer research.

Deadline: October 16, 2023

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NIH: The Role of Sleep Deficiency in Persons with Type 1 Diabetes: Sleep, Glycemic Control, and Cardiovascular Risk (R01 Clinical Trial Optional)

The purpose of this Funding Opportunity (FO) [RFA-HL-24-008] is to elucidate the contribution of sleep deficiency and circadian disruption to metabolic and cardiovascular pathobiology, disease trajectory, and treatment response in individuals living with Type 1 Diabetes (T1D). The FO will support clinically relevant, mechanism focused research on the interface between sleep, circadian rhythms biology, T1D and cardiovascular disease. Multi-disciplinary teams bridging sleep/circadian, diabetes, and cardiovascular research are encouraged. Proposed research should be relevant to the ultimate goal of applying sleep and circadian strategies to improve treatment and outcomes in individuals with T1D, and to mitigate related cardiovascular complications.

LOI Deadline: September 11, 2023

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NSF: Analysis

The Analysis Program [PD 20-1281] supports research in analysis. Areas of current activity include complex, harmonic, and real analysis; dynamical systems and ergodic theory; functional analysis; mathematical physics; operator theory and operator algebras; partial differential equations and calculus of variations.

Conferences:

Proposals to the Analysis Program for conferences or workshops must be submitted through the program solicitation "Conferences and Workshops in the Mathematical Sciences" Link <u>Here >></u>

Deadline: October 2, 2023

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NSF: Broadening Participation in Engineering

Through the Broadening Participation in Engineering (BPE) Program [NSF 22-514], NSF seeks to strengthen the future U.S. engineering workforce by enabling and encouraging the participation of all citizens in the engineering enterprise. The BPE Program seeks to support not only research in the science of broadening participation and equity in engineering, but also collaborative endeavors which foster the professional development of a diverse and well-prepared engineering workforce as well as innovative, if not revolutionary, approaches to building capacity through inclusivity and equity within the engineering academic experience.

To solicit the best ideas for these activities, both in formation and enactment, the BPE Program will support projects at various levels of readiness and complexity through the following four tracks:

• Track 1: Planning and Conference Grants Deadline: Proposals accepted ANYTIME

- Track 2: Research in Broadening Participation in Engineering Deadline: Proposals accepted ANYTIME
- Track 3: Inclusive Mentoring Hubs (IM Hubs) Deadline: November 15, 2023
- Track 4: Centers for Equity in Engineering (CEE) LOI Deadline: September 20, 2023 (Strongly recommended) Full Proposal Deadline: November 15, 2023

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NSF: Condensed Matter and Materials Theory (CMMT)

The CMMT program [NSF 23-611] supports fundamental research that advances conceptual understanding of hard and soft materials, and materials-related phenomena; the development of associated analytical, computational, and data-centric techniques; and predictive materials-specific theory, simulation, and modeling for materials research.

CMMT encourages potentially transformative submissions at the frontiers of theoretical, computational, and data-intensive materials research, which includes but is not limited to:

- Advancing the understanding of emergent properties and phenomena of materials and condensed matter systems
- Developing materials-specific prediction and advancing understanding of properties, phenomena, and emergent states of matter associated with either hard or soft materials
- Developing and exploring new paradigms including computational and data-enabled approaches to advance fundamental understanding of materials and materials related phenomena
- Fostering research at interfaces among subdisciplines represented in the Division of Materials Research
- Harnessing machine learning or developing explainable machine learning to advance understanding of materials and materials-related phenomena
- Developing new theoretical frameworks in areas of materials research, such as active matter, nonequilibrium materials or matter, the synthesis of solid-state materials, or reformulating quantum many-body theory for conceptual insight or greater tractability

Deadline: Proposals accepted ANYTIME

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NSF: Ecology and Evolution of Infectious Diseases (EEID)

The multi-agency Ecology and Evolution of Infectious Diseases program [<u>NSF 22-620</u>] supports research on the ecological, evolutionary, organismal, and social drivers that influence the transmission dynamics of infectious diseases. The central theme of submitted projects must be the quantitative, mathematical, or computational understanding of pathogen transmission

dynamics. The intent is discovery of principles of infectious disease (re)emergence and transmission and testing mathematical or computational models that elucidate infectious disease systems. Projects should be broad, interdisciplinary efforts that go beyond the scope of typical studies. They should focus on the determinants and interactions of (re)emergence and transmission among any host species, including but not limited to humans, non-human animals, and/or plants.

Deadline: November 15, 2023

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NSF: Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental and Transport Systems (ECO-CBET)

The Environmental Convergence Opportunities in Chemical, Bioengineering, Environmental, and Transport Systems (ECO-CBET) [NSF 21-596] solicitation will support fundamental research activities that confront vexing environmental engineering and sustainability problems by developing foundational knowledge underlying processes and mechanisms such that the design of innovative new materials, processes, and systems is possible. Projects should be compelling and reflect sustained, coordinated efforts from highly interdisciplinary research teams. A key objective of the solicitation is to encourage dialogue and tightly integrated collaborations wherein members of the chemical process systems, transport phenomena, and bioengineering research communities engage with environmental engineering and sustainability experts to spark innovation and arrive at unanticipated solutions. Furthermore, training the future workforce to successfully engage in discipline-transcending research will support continued innovation toward surmounting the complex environmental and sustainability challenges facing our global community.

Preliminary Proposal Deadline: September 17, 2023

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NSF: Paleo Perspectives on Present and Projected Climate (P4CLIMATE)

The goal of the interdisciplinary P4CLIMATE solicitation [NSF 22-612] is to utilize observational and modeling studies to provide paleo perspectives addressing the two research themes:

Past Regional and Seasonal Climate

Proposals are particularly sought to improve understanding of processes, drivers, and feedbacks of climate variability at seasonal and regional scales. Examples include (but are not limited to): local sea-level change; permafrost thaw and feedbacks to the climate system; regional hydroclimate extremes and habitability; and regional teleconnections.

Past Climate Forcing, Sensitivity, and Feedbacks

Proposals are particularly sought to advance understanding of climate processes, forcings, sensitivity, and feedbacks. Examples include (but are not limited to): triggers, thresholds, and tipping points of climate forcings and feedbacks; controls, responses, and impacts of past landand sea-ice changes, particularly during warm climate intervals; quantifying aerosol forcing by integrating modern observations, modeling, and assimilation of proxy data; the role of statedependence in climate feedbacks; and climate forcing beyond CO2. *Deadline: October 20, 2023*

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PepsiCo: Acid and Heat Stable Sweet Proteins for Beverage Application

PepsiCo is seeking high intensity <u>sweet proteins</u> that are stable to low pH environment and to thermal treatments in ready-to-drink, shelf stable beverage applications.

Solutions of interest include:

- Proof of concept study in surface modification of commercially available sweet proteins
- Breakthrough ingredients that have significant advancement beyond PepsiCo's knowledge
- Any sweet protein with no allergen issues

Must-have requirements are:

- Safe for consumption, with available safety data for toxicology effects
- Water soluble
- Acceptable taste profile (no alteration in color, taste and/or mouthfeel)
- Stable in a low pH (2.7-3.2) beverage at ambient temperatures for 6-9 months (stable to light, heat, no sedimentation, or phase separation, no or minimal impact on flavor of finished beverage during shelf life)
- Stable after thermal processes (Hot Fill: 200-205F for 33 seconds; Tunnel: 160-165F for 10 minutes; Aseptic: 280F for 4 seconds). At a minimum, compatible with a cold fill preserved process.
- Minimum shelf-life of 6 months
- Path to regulatory approval in the US, Canada, and/or Europe

The application takes approximately 45 minutes and is less than 500 words.

Deadline: August 31, 2023

RWJF: Health Policy Fellows

The <u>Healthy Policy Fellows</u> program is seeking outstanding midcareer health professionals, behavioral and social scientists, and others with an interest in health and the drivers of health who are skilled and committed; with expertise in health and health equity; and can offer an informed perspective on important and complex challenges facing policymakers. Fellows actively participate in the policy process in congressional or executive branch offices of their choosing and leverage this leadership experience to promote policies, practices, and systems changes that advance health and health equity.

Deadline: November 1, 2023; 2PM

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The Gladys Krieble Delmas Foundation: Venetian Research Program

The Foundation awards <u>Venetian Research Program</u> travel grants to individual scholars to support historical research on Venice and the former Venetian empire, and for the study of contemporary Venetian society and culture. Applicants from all disciplines of the humanities and social sciences are eligible areas of study, including, but not limited to, archaeology, architecture, art, bibliography, economics, history, history of science, law, literature, music, political science, religion, and theater. Other relevant research interests will be considered.

Deadline: December 15, 2023

Looking for more funding opportunities?

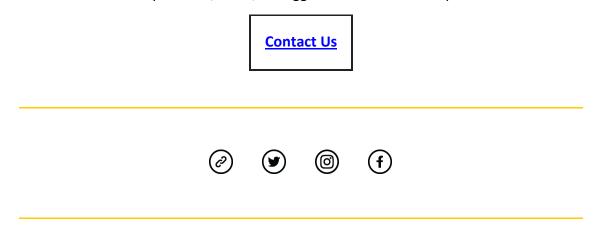


RCA subscribes to SPIN by InfoEd Global, a database of more than 40,000 funding opportunities. Through this subscription, SPIN is free for current NDSU faculty, staff, and students.

For more information and to access this database, visit the <u>SPIN page</u> on the RCA website. If you have questions, please contact <u>ndsu.researchdev@ndsu.edu</u>.

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



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.