

RCA UPDATE

September 18, 2023

Mark your calendar for October 16, 23, and 30



We will soon be announcing the participants for BisonSpark Talks. Thanks to everyone who submitted a proposal package for the event.

BisonSpark Talks will be delivered to campus on three dates: October 16, 23, and 30 from 3:00 - 4:30pm in the Memorial Union Oceti Sakowin Ballroom and everyone is invited to attend. A short Q&A session will follow each presentation.

RCA faculty fellow Mathew earns APS Achievement Award

Febina Mathew, associate professor of AES plant pathology at North Dakota State University and broadening participation faculty fellow in the NDSU Office of Research and Creative Activity (RCA), recently earned the 2023 International Plant Pathology Research Achievement Award from the American Phytopathological Society (APS) Office of International Programs (OIP). The award recognizes early career scientists for their research conducted in countries outside of the United States.



Mathew's research program focuses on the biology of pathogens that cause soybean and sunflower diseases and on developing disease management strategies. APS recognized her work for contributions to the knowledge about the fungal plant pathogen *Diaporthe* and the resulting Phomopsis stem canker disease. In sunflowers, Phomopsis causes browning and wilting of leaves and blight in young shoots along with sunken canker areas on infected stems. Mathew developed strategies to manage the disease in Argentina that included selection of disease-resistant varieties and use of foliar fungicides.

Mathew collaborated with researchers in Argentina to identify pathogens causing sunflower Phomopsis stem canker. This collaboration led to three peer-reviewed publications including a Spanish translation of the APS Plant Disease Lesson on Phomopsis stem canker of sunflower. She also hosted research scholars from Argentina at North Dakota State University to train them in identifying potential candidate genes for resistance to *Diaporthe* species in sunflowers.



Mathew is currently involved in international research focused on evaluating the diversity of *Diaporthe* species responsible for Phomopsis seed decay in Brazilian

soybean crops. She is also evaluating fungicide effectiveness and timing in combatting *Diaporthe*-associated diseases in soybeans (Brazil) and sunflowers (Argentina).

“I am grateful and honored to have received the award from the APS on behalf of my team,” Mathew said. “The sunflower projects were teamwork involving my graduate students as well as collaborators from the U.S. (NDSU Professor and Plant Pathologist Sam Markell and University of Nebraska Extension Plant Pathologist Bob Harveson) and from Argentina (*Universidad Nacional de Mar del Plata* and Advanta Seeds).”

Congratulations to Dr. Mathew on this award!

RCA Undergraduate Research Director Ying earns Excellence in Teaching Award

NDSU Professor of Civil, Construction and Environmental Engineering and Welch Faculty Fellow Professor Ying Huang was recently awarded the 2023 NDSU College of Engineering Excellence in Teaching Award.

Huang serves as a faculty fellow and Undergraduate Research Director for the NDSU Office of Research and Creative Activity.



The NDSU College of Engineering Excellence in Teaching award recognizes outstanding teaching activities among CoE faculty across the following areas:

- The quality of teaching, student mentoring and advising, as well as course and/or lab development.
- The commitment to teaching responsibilities.

- The commitment to foster student learning both at graduate and undergraduate levels.
- Evidence of the scholarship of teaching.
- Evidence of mentoring junior faculty in teaching.
- Other evidence of teaching innovation and excellence.

Congratulations to Dr. Huang on this recognition!

If my sponsored project proposal budget includes rental costs, when should I budget F&A (indirects) on those costs?

When creating a proposal budget for sponsored projects, rents and leases can be

used to obtain the tools and space you need to complete your project, often when these items are not readily available at NDSU. These budget items will also have an impact on the Modified Total Direct Cost (MTDC) base used to determine the F&A budgeted for the project. Below are common expenses that may be incurred during projects and clarification on whether such costs should be excluded or included in the MTDC base.

Exclude from F&A calculation:

- Leasing space for any period of time such as land or an off-campus office
- Renting tanks for gases and chemicals
- Renting equipment from an external vendor

Include in F&A calculation (budget as direct costs in the identified categories):

- Recharge center usage fees (Operating Fees category)
- Refilling gases and chemicals in rented tanks (Supplies category)
- Car rental (Travel category)
- Renting a hotel room/lodging (Travel category)

If you have questions regarding your proposal budget, please contact Sponsored Programs Administration at ndsu.research@ndsu.edu or 701-231-8045.



Congressional Update Memo: Shutdown Outlook and Impacts for Higher Education and Research

Lewis-Burke Associates LLC – September 14, 2023

Due to the increased risk of a government shutdown when the current federal fiscal year ends on September 30, 2023, Lewis-Burke has compiled a guide detailing

potential impacts to universities and recommendations to mitigate risk of disruption to federally funded research.

The memo suggests that institutions should use the remaining weeks of September to prepare for the disruptions that a shutdown would bring. It also includes information on previous shutdown impacts, considerations for preparing, and links to agency contingency plans.

Likely Shutdown Impacts In the event of a federal government shutdown

Agencies will not be able to:

- look at proposals (although electronic submissions systems will likely remain active)
- send proposals for peer review
- convene review panels or advisory committees
- make new awards
- make manual payments to existing awards

Most agency staff will be furloughed and will not be allowed to access their government email, meaning faculty and university leadership will be unable to communicate about grant programs, active awards, or potential proposals. In addition to the backlog that will be created because most of the federal workforce is furloughed, further delays on announcements of awards or new grant programs will be likely as federal agencies will have to reschedule review panels, internal meetings, and public launch events related to new programs.

For more details, including steps you should take ahead of time, read [the complete memo](#) (requires NDSU login).

You may also contact the NDSU [Sponsored Programs Administration \(SPA\) team](#) for more information on topics such as obtaining a no-cost extension.



AI FOR HUMANITY 20231031

In the years ahead, there are outstanding questions to consider that explore significant advances addressing AI for HUMANITY.

Join host and AFOSR program officer for the Science of Information, Computation, Learning, and Fusion, Doug Riecken, on **October 31, 2023 from 2-3:30 p.m. ET** for a lively discussion with A.I. leaders: Carla Gomes, Eric Horvitz, Kimberly Sablon, Steven "Cap" Rogers, Tom Mitchell, and Yann LeCun as they discuss AI for HUMANITY.

[Learn more >>](#)



Idea Bank

Calling all ideas! America's Datahub Consortium is inviting input from all stakeholders that can be used to inform future project solicitations and other activities, including those to inform a potential National Secure Data Service. Ideas

submitted will be shared publicly so they must be non-proprietary and non-attributinal.

Priority Topics:

- **Privacy Preserving Technologies (PPT)** – innovative technologies, techniques, methodologies, approaches, tools, and other like terms that relate to securing data and preserving individual privacy when conducting statistical analysis used for research and evidence-building. This includes but is not limited to privacy preserving record linkage (PPRL), Secure Multi-Party Computing, and statistical disclosure limitation.
- **Data collection, access, linkage, and standards** – new/improved collection methods, accessibility, linkages (framework for linked data), improvements for data interoperability (i.e., metadata), and data quality.
- **Statistical and other quantitative analyses** – including but not limited to efforts supporting NCSES's six core areas of interest related to the U.S. science and engineering enterprise.
- **Legal frameworks** – reducing legal barriers for data sharing across federal and state agencies and organizations at all levels and across sectors.
- **User Tools** – development and optimization of tools that support shared service models for evidence-based policy making, including concierge services, toolkits, etc.
- **Stakeholder Engagement** – overcoming barriers across stakeholder groups, including across geography and sectors, that allow for improved engagement and sustained partnerships for evidence-based decision-making.
- **Artificial Intelligence** – furthering the recommendations included in the National Artificial Intelligence Research Resource (NAIRR) Task Force Report [“Strengthening and Democratizing the U.S. Artificial Intelligence Innovation Ecosystem.”](#)
- **Other** – furthering the National Secure Data Service recommendations included in the Advisory Committee on Data for Evidence Building (ACDEB) [Year 2 Report](#).

[Learn more >>](#)



National Science Foundation
WHERE DISCOVERIES BEGIN

New NSF program aims to identify barriers and tools for historically underrepresented communities in the innovation ecosystem

The U.S. National Science Foundation recently announced a new \$2 million pilot to support the increased involvement and success of entrepreneurs from historically underrepresented groups to bring their innovations to communities and the public with broad societal benefits. The Compass Pilot: Increasing Participation in Federal Seed-Funding Programs will ensure the NSF is better postured to leverage the full spectrum of diverse talent throughout the innovation ecosystem.



The new pilot is led by the Public Policy Lab, a nonprofit innovation lab with over a decade of experience working with government partners to apply human-centered research and design methods to challenges faced by low-income and marginalized Americans.

During the project, up to 40 teams from groups underrepresented in innovation will engage in identifying barriers facing them when attempting to pursue non-dilutive funding to examine the technical and commercial feasibility of their innovations for public good.

The pilot program's goals:

- 1.** Identify the challenges that startup entrepreneurs face and particularly understand what barriers are experienced when pursuing seed funding and

generate solutions that overcome these barriers throughout entrepreneurs' journeys in translating their innovations to society.

2. Co-design, prototype, and pilot tools with cohorts of community entrepreneurs, applying user-centered design methodologies to structure creative and rapid testing and validation.
3. Propose a broad array of possible future initiatives for improvement, from systemic interventions to personalized experiential learning opportunities.

[Learn more >>](#)



National Institutes
of Health
WEBINAR

NIH Subaward Requirements: Domestic and Foreign

Make plans to join the NIH Office of Extramural Research Administration (OPERA) and your peers for an informative and engaging virtual event on October 17 from 12:00-1:00pm, focused on NIH subaward agreements.

- What are the components of a subaward agreement?
- What are key policy requirements?

During this event, NIH extramural policy leaders will walk you through each section of the subaward agreement to share answers to these questions and more!

This event is hosted by the NIH Office of Extramural Research and features **Michelle Bulls**, Director of the Office of Policy for Extramural Research Administration (OPERA), NIH and **Kristin Ta**, Senior Advisor of the Office of Policy for Extramural Research Administration (OPERA), NIH.

Registration is free.

[Learn more >>](#)

CCAST Advanced Research Computing Training Program

FREE training workshops offered by CCAST/NDSU.
Pre-registration is required.

REGISTRATION DEADLINE IS TODAY (9/18/23)

The NDSU Center for Computationally Assisted Science and Technology ([CCAST](#)) is offering a workshop series to introduce advanced research computing to faculty, staff, and students at NDSU and beyond. This series aims to provide researchers with basic knowledge and hands-on skills that help them make the best use of local and national high-performance computing (HPC) facilities, and ultimately to advance their research capabilities.

Workshops will be offered both in person (preferred) and via Zoom, and will include lectures, demonstrations, and hands-on tutorials where participants will have opportunities to perform simple and not-so-simple tasks on CCAST's HPC systems. Recordings and workshop materials will be available for those who cannot attend live. There are no prerequisites, except a strong willingness to learn. Some familiarity with computer programming and Linux shell scripting would be helpful, but not required.

FALL 2023 SCHEDULE

Core training workshops

- **September 25, 1-3 PM: Introduction to high-performance computing (HPC)**

Basics of HPC, computer clusters, parallel computing, HPC resources at NDSU and elsewhere, access to CCAST's HPC systems

- **September 27, 1-3 PM: Linux for HPC: Working with Linux-based HPC systems**

Basics of UNIX/Linux, job scheduler, queue policies, running and monitoring jobs on HPC systems

- **September 29, 1-3 PM: Linux for HPC: Text processing and shell scripting**

Linux utilities for searching texts and manipulating text files, Bash shell scripting to automate tasks

- **October 2, 1-3 PM: How to get your work done faster? Parallel computing**

Parallel programming models, work distribution among CPU cores, parallel scaling performance, tips on running parallel jobs

- **October 4, 1-3 PM: Accelerated computing with GPUs**

Basics of graphics processing units (GPUs) and GPU programming, running scientific applications on GPU compute nodes

Attending all the core training workshops is strongly recommended if you are new to HPC and/or CCAST as basic HPC and Linux knowledge and skills is required for the special workshops.

Special training workshops

- **October 23, 1-3 PM: Running Python on HPC systems**

Running Python codes on CCAST HPC systems, available Python versions and where to find them, creating custom Python environments and installing packages, integrating with Jupyter Notebook

- **October 25, 1-3 PM: Running R on HPC systems**

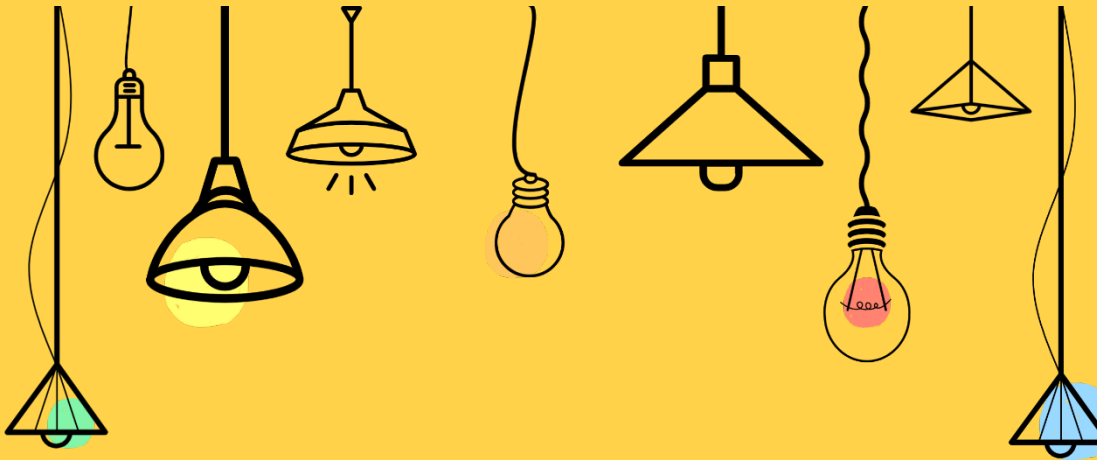
Running R code on CCAST HPC systems, installing R packages, converting R code to run in batch jobs, parallel processing in R

- **October 27, 1-3 PM: HPC for materials modeling and simulation**
Running complex materials modeling software packages (VASP, Gaussian, NAMD, LAMMPS, etc.) properly and efficiently on HPC systems

All trainings are FREE; however, pre-registration is required.

Deadline to register: September 18, 2023

[Register for CCAST trainings >>](#)



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

- **I-Corps Updates Meeting**
October 5, November 2, December 7 | [Learn More >>](#)
- **NIH Office of Behavioral and Social Sciences Research Director's Webinar: The Theoretical and Practical Importance of Advancing Health Equity**
September 19, 2023 | [Register >>](#)
- **Partnerships for Innovation (PFI) Q&A Webinar**
October 3, December 2 | [Learn More >>](#)
- **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

- [Altium Packaging: Improvements to Lightweight Plastic Bottle Packaging](#)
- [Altium Packaging: Mechanically Recycled Polymers that Perform Like Virgin Polymers](#)
- [Bayer: Moisture Resistant Technologies and Formulations for Solid Effervescent Tablets](#)
- [Department of Energy: Critical Material Innovation, Efficiency, and Alternatives](#)
- [DoD: Pioneering Aerospace Capabilities, Engineering and Research](#)
- [DOI: Desalination and Water Purification Research Program - Research Projects](#)
- [General Mills: Making Ice Cream More Resilient Towards Fluctuations in Temperature](#)
- [Jack Straw: Music Art Programs](#)
- [ND Soybean Council FY205 RFP](#)

- [NIH: Analysis of data in the COVID-19 Neuro Databank-Biobank](#)
- [NIH: Innovative Research in Cancer Nanotechnology](#)
- [NIH: NOSI - Addressing Organizational Factors to Prevent or Mitigate Nurse Burnout](#)
- [NIH: Ruth L. Kirschstein National Research Service Award Individual Senior Fellowship](#)
- [NSF: Cyberinfrastructure for Sustained Scientific Innovation](#)
- [NSF: DCL - Tool Development for Molecular and Cell Biology](#)
- [NSF: Division of Physics: Investigator-Initiated Research Projects](#)
- [NSF: Dynamics of Integrated Socio-Environmental Systems](#)
- [NSF: Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science](#)
- [Unilever: Nutritional Interventions for Telomere Defense](#)

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.

There are no Upcoming Limited Submission Programs at this time.

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.

- [American Lung Association: Lung Cancer Discovery Award](#)
LOI Deadline: September 22, 2023

- [Johnson and Johnson: The WiSTEM2D Scholars Award Program](#)

Deadline: 09/30/2023

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Altium Packaging: Improvements to Lightweight Plastic Bottle Packaging

Altium's goal is to offer dramatically lighter weight packaging to our customers to maintain a competitive position in the market. Altium is seeking materials, additives, processing technologies, and design techniques to enable lighter weight packaging.

Solutions of interest include:

- Materials and additives that allow for lighter weight packaging
- Non-material-based solutions, such as structural designs, textures and engraving techniques
- Extrusion tooling and extrusion processing technologies
- Mold construction, materials and technologies that facilitate lightweighting
- Use of secondary materials, such as labels, to combined with a molded part to lightweight a package

Must-have requirements are:

The final product (after partnering with Altium) will need to pass these must-have requirements. Ideally, applicants would have information regarding how their solution will enable these requirements in a finished product:

- At least a 15% decrease in part weight with no impact to product performance
- Bottle must be manufactured using a blow-molding process
- Compatible with wide manufacturing process window
- Compatible with PET #1, HDPE #2 or PP #5 resin identification code (RIC)

The [application](#) takes about one hour to complete.

Deadline: October 31, 2023

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Altium Packaging: Mechanically Recycled Polymers that Perform Like Virgin Polymers

Altium Packaging seek to identify manufacturing methods and materials for post-consumer resins (PCR) resins that offer significant improvement in molded product appearance, mechanical performance, and ease of process than current material available at scale.

Solutions of interest include:

- Highly functional post-consumer resin (PCR) materials & additives that improve mechanical properties
- Extrusion tooling, molds & processing technologies aiding the conversion of PCR into molded articles
- Sortation solutions and processing that improves the mechanical recycling process
- Resin markers or other means to allow recyclers to sort the resins by properties in order to avoid contamination

The [application](#) takes about one hour to complete.

Deadline: October 31, 2023

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Bayer: Moisture Resistant Technologies and Formulations for Solid Effervescent Tablets

Bayer Consumer Health is looking for alternative effervescent components and/or moisture barrier coatings for tablets. We are also open to other creative approaches that improve moisture resistance of the tablets. Ideally the technology can work across various dosage systems and ingredients, although multiple technologies for different systems/ingredients are also acceptable.

Solutions of interest include:

- Alternative effervescent components for use in the tablet
- Coating or surface treating technologies to improve moisture-resistance of the tablet
- Encapsulation technologies that provide a kind of protective, water-soluble shell around the tablet

The [application](#) takes about one hour to complete.

Deadline: October 31, 2023

Department of Energy: Critical Material Innovation, Efficiency, and Alternatives

This Funding Opportunity (FO) will create innovative methods and technologies for the efficient and sustainable provision of critical materials to the domestic economy and the expected activities under the program to mitigate the environmental and health impacts of the extraction, processing, manufacturing, use, recovery, and recycling of critical materials.

The overarching goal of this opportunity is to develop domestic supply chains for critical minerals and materials (CMM) by creating paths and strategies to commercialize processes that utilize domestic resources. These activities can include extraction, separation, processing, refining, alloying, or recycling technologies but should focus on decreasing environmental emissions, reducing resource usage or intensity, and/or optimizing cost.

The FO will include five areas of interest, which are separated into phases as follows:

- **CMM Supply Chain:** Multiphase opportunity to develop technologies or process improvements along the critical mineral and material (CMM) supply chain that develop new domestic supplies of CMMs.
- **Value Added Products:** Multiphase opportunity to develop value added products from a feedstock containing CMM.
- **Next Generation Technologies:** Development of novel, “next generation” technologies to be utilized in the production of critical minerals and materials that focus on the optimization of environmental emissions, resource usage or intensity, and cost within extraction, production, separation, processing, refining, alloying, manufacturing, or recycling technologies.
- **Alternative Materials:** Development of CMM alternatives or substitutes to increase robustness of domestic supply chains.
- **Alternative Products:** Development of alternative energy technologies or designs of existing energy technologies, particularly technologies or designs that use materials that are abundant in the US or not subject to supply restrictions.

[Learn more >>](#)

Deadline: November 10, 2023



DoD: Pioneering Aerospace Capabilities, Engineering and Research (PACER)

The [PACER BAA](#) will enable study efforts on novel concepts, as well as research and development efforts to mature specific technologies to appropriate technology readiness levels (TRL) depending on end use. Efforts under this BAA are intended to further Air Force Research Lab/Aerospace Systems Directorate's (AFRL/RQ) mission in pioneering transformative aerospace technologies for the warfighter's decisive advantage.

Topics of Interest include:

High Speed Systems Technology Development

Aero Structures, Propulsion Technologies, Vehicle Integration and Analysis and Experimental Science

Power and Controls Technology Development and Demonstration

Autonomous Control Branch, Control Systems, Electrical Systems, Flight Systems Integration and Mechanical & Thermal Systems

Systems Analysis Technology Development

Science of Modeling, Simulation, and Analysis, Aerospace systems, and Digital Engineering and R&D Applications

Air-Breathing Engine Technology Development

Affordability, and Future Enabling Air Breathing Propulsion

Air-Vehicle Technologies Development and Demonstration

Aerodynamic Technologies, Airframe Structures, Multidisciplinary Design, Analysis and Optimization and Development and Demonstration of Advanced Military Air Vehicle Capabilities

Deadline: May 10, 2043

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DOI: Desalination and Water Purification Research Program - Research Projects

Desalination Water Purification Research (DWPR) [[R24AS00016](#)] funding plays a critical role in iterating an idea from the lab to a real-world demonstration, yielding products that serve the water treatment community and attract commercialization interest.

Reclamation is interested in research where the benefits are widespread but where private-sector entities are not able to make the full investment and assume all the risks. Reclamation is also interested in research that has a national significance—where the issues are of large-scale concern and the benefits accrue to a large sector of the public. The goal of the DWPR program is to address the need to reduce the costs, energy requirements, and environmental impacts of treating impaired and unusable water.

This DWPR Research FO invites applicants to address any of the following objectives:

- Develop or improve process or approaches to reduce the cost, energy consumption, feasibility, and/or environmental impacts of desalination and water treatment
- Improve existing membrane technologies, including reverse osmosis, electrodialysis, nanofiltration, membrane filtration, and pretreatment processes
- Carry out basic and applied research on next-generation desalination technologies, including improved energy recovery systems and renewable energy-powered desalination systems
- Develop cost-effective approaches for concentrate management that address feasibility, cost, and/or environmental impacts
- Develop technologies or processes for the selective removal of nutrients and other target contaminants
- Study methods for the recovery of byproducts resulting from desalination to offset the costs of treatment and to reduce environmental impacts from those byproducts
- Please read FO for additional objectives

Deadline: November 15, 2023; 5PM

General Mills: Making Ice Cream More Resilient Towards Fluctuations in Temperature

Important [fluctuations of temperature](#) during transportation of ice creams affect significantly their microstructure and more specifically the ice crystal size. The overall sensory profile of the final products can be then altered, with more iciness perception. Traditional ingredients solutions with water binding ability fail to meet consumer expectations as they are very often chemically modified.

Solutions of interest include:

- Ingredients (clean label)
- Processing
- Distribution
- Storage

Must-have requirements are:

- Does not noticeably alter the ice cream flavor
- Prevents/limits the ice crystal growth, measured through different techniques such as microscopy

The application takes about one hour to complete.

Deadline: October 31, 2023

Jack Straw: Music Art Programs

The Jack Straw Cultural Center is the Northwest's only non-profit multidisciplinary audio arts center. A community-based resource since 1962, they provide a production facility that is unlike any other in the region for local artists who work creatively with sound. They focus on annual artist residencies through [various programs](#) including the Artist Support Program, Writers Program and the New Media Gallery Program.

Artist Support Program

The Artist Support Program is open to artists of all disciplines whose project proposals include sound as a major component. Such projects might include recording a music album, producing radio programs, oral histories, audio literature, sound for a gallery

installation or public art project, film, music and sound design for dance and theater, and digital media work among other project categories.

Deadline: November 28, 2023; 2AM

Writers Program

The purpose of the Jack Straw Writers Program is to introduce writers to the medium of recorded audio; to develop their presentation skills for both live and recorded readings; to encourage the creation of new literary work; to present the writers and their work in live readings, in an anthology, on the web, and on the radio; and to build community among writers.

Deadline: November 2, 2023; 2AM

New Media Gallery Program

This program enables artists to experiment with audio and other technology and to develop new skills and ideas in a supportive setting. Up to four artists/teams are selected to receive up to 20 hours of free studio time with an engineer, which they may use to realize the sound component of their project, with training as needed.

Deadline: November 28, 2023; 2AM

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North Dakota Soybean Council: Request for Proposals

The North Dakota Soybean Council (NDSC) is seeking soybean production and breeding research project renewal requests and [new proposals for funding for FY 2025](#) (July 1, 2024 - June 30, 2025). The NDSC board funds research projects that support the NDSC's mission and vision, and address NDSC's soybean production and breeding research priorities.

Research Priorities:

- Weed Management
- Disease Management
- Insect Management
- Soil Management
- Water Management
- Soybean Breeding
- Soybean Harvest Management and Storage

Funding request forms available from the [ND Soybean Council](#).

Deadline: November 2, 2023

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NIH: Analysis of Data in the COVID-19 Neuro Databank-Biobank (R03 - Clinical Trail Not Allowed)

The purpose of this Funding Opportunity (FO) [[RFA-NS-24-025](#)] is to invite applications that aggregate and analyze existing data in the COVID-19 Neuro Databank-Biobank (NeuroCOVID Project). The NeuroCOVID Project was established in 2020 to serve as a robust national resource to understand the neurological complications associated with COVID-19 and the effects of COVID-19 on pre-existing neurological conditions. The NeuroCOVID Project has collected and curated a wide range of data from the United States and international sites. This FO encourages hypothesis-driven applications to further scientific knowledge of neurological complications of COVID-19 by using this de-identified database. The data may be combined with data from other U.S. and International databases for analyses.

Deadline: Letter of Intent October 30, 2023

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NIH: Innovative Research in Cancer Nanotechnology (ICRN; R01 Clinical Trial Not Allowed)

Through this Funding Opportunity (FO) [[PAR-23-246](#)] the National Cancer Institute (NCI) encourages applications promoting transformative discoveries in cancer biology and/or oncology through the use of nanotechnology. Proposed projects should address overcoming major barriers in cancer biology and/or oncology using nanotechnology and should focus on mechanistic studies to expand the fundamental understanding of nanomaterial and/or nano-device interactions with biological systems. These studies are expected to be relevant to the delivery of nanoparticles and/or nano-devices to desired and intended cancer targets in vivo and/or characterization of detection and diagnostic devices and sensors in vitro. IRCN awards are expected to produce fundamental knowledge to aid future and more informed development of nanotechnology-based cancer interventions.

Upcoming Deadlines: November 3, 2023; May 3, 2024...

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NIH: NOSI - Addressing Organizational Factors to Prevent or Mitigate Nurse Burnout

The National Institute of Nursing Research (NINR) seeks research studies [[NOT-NR-23-012](#)] to develop and evaluate novel organizational interventions to prevent and mitigate nurse burnout which will build new knowledge and the evidence base for implementation in places where nurses practice: in hospitals and clinics, in schools and workplaces, in homes and long-term care facilities, in justice settings, and throughout communities.

The primary goal of this research initiative is the prevention or mitigation of nurse burnout. As such, the primary outcome measure must be well justified based on theory and evidence as to its link to nurse burnout. Studies may include more than one outcome. Additional potential study outcomes could also include, but are not restricted to:

- Nurse outcomes such as nurse satisfaction, engagement, intent to leave, and occupational injury
- System outcomes such as nurse retention, absenteeism, turnover, and costs

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

[PAR-22-230](#) - NINR Areas of Emphasis for Research to Optimize Health and Advance Health Equity (R01 Clinical Trial Optional)

[PAR-22-231](#) - NINR Areas of Emphasis for Research to Optimize Health and Advance Health Equity (R21 Clinical Trial Optional)

This notice applies to due dates on or after October 05, 2023 and subsequent receipt dates through May 8, 2025.

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NIH: Ruth L. Kirschstein National Research Service Award (NRSA) Individual Senior Fellowship (Parent F33)

The overall goal of the NIH Ruth L. Kirschstein National Research Service Award (NRSA) program is to help ensure that a diverse pool of highly trained scientists is available in appropriate scientific disciplines to address the Nation's biomedical, behavioral, and clinical research needs. The National Institutes of Health (NIH) awards senior individual research training fellowships [[PA-23-263](#)] to experienced scientists who wish to make major changes in the direction of their research careers or who wish to broaden their scientific background by acquiring new research capabilities as independent investigators in research fields relevant to the missions of participating NIH Institutes and Centers.

Upcoming Deadlines: December 8, 2023; April 8, 2024...

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NSF: Cyberinfrastructure for Sustained Scientific Innovation (CSSI)

The Cyberinfrastructure for Sustained Scientific Innovation (CSSI) program [[NSF 22-632](#)] seeks to enable funding opportunities that are flexible and responsive to the evolving and emerging needs in cyberinfrastructure (CI). The program continues to emphasize integrated CI services, quantitative metrics with targets for delivery and usage of these services, and community creation.

The CSSI program anticipates three classes of awards:

- **Elements:** These awards target small groups that will create and deploy robust services for which there is a demonstrated need, and that will advance one or more significant areas of science and engineering.
- **Framework Implementations:** These awards target larger, interdisciplinary teams organized around the development and application of services aimed at solving common research problems faced by NSF researchers in one or more areas of science and engineering, and resulting in a sustainable community framework providing CI services to a diverse community or communities.
- **Transition to Sustainability:** These awards target groups who would like to execute a well-defined sustainability plan for existing CI with demonstrated impact in one or more areas of science and engineering supported by NSF. The sustainability plan should enable new avenues of support for the long-term sustained impact of the CI.

Deadline: December 1, 2023

NSF: DCL - Tool Development for Molecular and Cell Biology (Tolls4Cells)

The purpose of this Dear Colleague Letter (DCL) [[NSF 23-121](#)] is to encourage submission of proposals to develop novel tools and methods that improve scientists' abilities to measure, analyze, manipulate, or control critical aspects of cellular properties and functions in order to continue to push boundaries and open new avenues of inquiry in molecular and cellular biosciences.

Proposals should be submitted to one of the following two Divisions in the Directorate for Biological Sciences (BIO), depending on the range of applicability of the tool or method and its connection to a specific research question or to a more general topic or research direction:

- **Any Core Program in the Division of Molecular and Cellular Biology (MCB)** – if the proposed tool or method addresses a specific research question or hypothesis defined by and to be used primarily by an individual user or group of researchers. ([NSF 23-548](#))
- **Infrastructure Innovation for Biological Research (Innovation) Program in the Division of Biological Infrastructure (DBI)** – if the proposed tool or method is applicable to a broad class of biological research questions or topics and will meet the needs of a well-defined community of researchers. ([NSF 23-578](#))

Deadline: Proposals may be submitted at any time

NSF: Division of Physics: Investigator-Initiated Research Projects (PHY)

The Division of Physics (PHY) supports physics research and the preparation of future scientists in the nation's colleges and universities across a broad range of physics disciplines that span scales of space and time from the largest to the smallest and the oldest to the youngest. [[NSF 21-593](#)]

This solicitation covers three possible award types:

- Individual investigator and group awards with standard time cycles

- Mid-scale research infrastructure awards
- Awards that anticipate long-term support

Program(s)	Deadline
Plasma Physics	Third Monday in November, e.g. November 20, 2023
AMO – Theory and Experiment Gravitational Physics – Theory and Experiment LIGO Research Support Integrative Activities in Physics	Fourth Wednesday in November, November 22, 2023
Elementary Particle Physics – Experiment Particle Astrophysics – Experiment	First Tuesday in December, e.g. December 05, 2023
Nuclear Physics – Theory and Experiment Elementary Particle Physics – Theory Particle Astrophysics and Cosmology – Theory Physics of Living Systems Quantum Information Science	Second Tuesday in December, December 12, 2023



NSF: Dynamics of Integrated Socio-Environmental Systems (DISES)

The DISES Program [[NSF 23-609](#)] supports research projects that advance basic scientific understanding of integrated socio-environmental systems and the complex interactions (dynamics, processes, and feedbacks) within and among the environmental (biological, physical and chemical) and human ("socio") (economic, social, political, or behavioral) components of such a system. The program seeks proposals that emphasize the truly integrated nature of a socio-environmental system versus two discrete systems (a natural one and a human one) that are coupled. DISES projects must explore a connected and

integrated socio-environmental system that includes explicit analysis of the processes and dynamics between the environmental and human components of the system.

PIs are encouraged to develop proposals that push conceptual boundaries and build new theoretical framing of the understanding of socio-environmental systems. Additionally, NSF encourage the exploration of multi-scalar dynamics, processes and feedbacks between and within the socio-environmental system.

DISES will support research projects, exploratory projects, and Research Coordination Networks (RCN).

- DISES Track 1 research awards will be up to five years in duration with a budget up to \$1,800,000.
- DISES-EX Track 2 exploratory awards will be up to three years in duration with a budget up to \$750,000.
- DISES-RCN Track 3 research coordination network awards will be four or five years in duration with a budget up to \$500,000.

Deadline: November 17, 2023

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NSF: Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science (SCH)

The purpose of this interagency program solicitation [[NSF 23-614](#)] is to support the development of transformative high-risk, high-reward advances in computer and information science, engineering, mathematics, statistics, behavioral and/or cognitive research to address pressing questions in the biomedical and public health communities. Transformations hinge on scientific and engineering innovations by interdisciplinary teams that develop novel methods to intuitively and intelligently collect, sense, connect, analyze and interpret data from individuals, devices and systems to enable discovery and optimize health. Solutions to these complex biomedical or public health problems demand the formation of interdisciplinary teams that are ready to address these issues, while advancing fundamental science and engineering.

Deadline: November 9, 2023

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Unilever: Nutritional Interventions for Telomere Defense)

Unilever is seeking [novel nutritional interventions](#), specifically ingredients or blends of ingredients suitable for dietary supplements, to help maintain optimal telomere length. Interventions that decrease the rate of telomere shortening, protect telomere length under oxidative stress conditions, enhance telomerase activity, or work by other mechanisms would be relevant.

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 maintain telomere length and an available in-vitro model (human derived) to assess the hypothesis

Nice-to-have requirements are:

- Solutions should be comprised of nutritional substances but should not consist of solely essential vitamins and minerals. (e.g., Vitamin C, E, Selenium, etc.)

The application takes about one hour to complete.

Deadline: October 31, 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 ndsuh.researchdev@ndsuh.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.