

RCA UPDATE

October 3, 2023

A message from NDSU VPR Colleen Fitzgerald

Dear NDSU research community:

This weekend marked the start of my third year here at NDSU. I started at NDSU in a time of change, with a presidential transition and my own first six months were spent getting to know you, hearing what the opportunities and barriers were for campus researchers, and preparing for the transition. We continue to be in a time of change at NDSU and I want to acknowledge its impact on our ability to collectively deliver upon the potential successes in front of us – that cannot be understated.



An important milestone last year was the establishment of a Faculty Research Council, which made 14 recommendations to President Cook (read [here](#)). Those recommendations align with the existing NDSU strategic plan and include:

- more significant investments into foundational types of resources supporting faculty researchers, such as reassigned time and seed and pilot grants;
- enhancing the diversity of campus researchers, including through the needed cross-cultural knowledge and infrastructure to strengthen our collective

ability to advance nation to nation ethical research collaborations with sovereign tribal nations; and

- adequate administration and accountability for reassigned time for research and reward structures that recognize and incentivize grant activity, among others.

Being able to draw from those first six months of listening has been essential in working collaboratively with the new Faculty Research Council to advocate for faculty researchers as reflected in those and other Council recommendations, and I will continue to work with everyone to ensure that the NDSU research and innovation enterprise remains equitable and effective for all.

From a research expenditure perspective, Fiscal Year (FY) 2024 is starting strongly. Our amazing NDSU research faculty have already secured a number of large awards this year and our FY22 expenditures are up \$10 million over FY21 to \$175 million (which is our highest point to date). I am characterizing the current year as one where we focus on implementation in four areas: Research Leadership; Industry Partnerships; Innovation; and Equity and Inclusion. Some quick highlights to date:

- **Research Leadership:** Over the last year, we have leveraged resources to invest in Water Resources Research Institute (Director Xinhua Jia); Undergraduate Research (Director Ying Huang); and three Faculty Fellows, two Broadening Participation (Hollie Mackey and Febina Mathew) and one in Uncrewed Autonomous Systems (Rex Sun). WRRRI Director Jia will be releasing a call for two Faculty Fellows in Water (see further below) as we continue to strategically build faculty leadership in our strategic research priority areas.
- **Industry Partnerships:** NDSU has been selected to host [Xurban](#) in summer 2025 by the University-Industry Demonstration Partnership (UIDP). This conference is a national convening of companies, universities, and other key stakeholders with the goal of bolstering research, innovation, talent, and economic development outside of major metropolitan areas. Every NDSU employee and student can access UIDP resources because we are a member;

register with your NDSU email address here: <https://uidp.org>.

- **Innovation:** Along with the FMWF Chamber, Grand Farm, and GFM EDC, our team was a key player in the "sweet 16" of [the NSF Regional Innovation Engines competition with our FARMS proposal](#). This core team was joined by nearly 80 partners across the region that included business leaders, legislators, and VIPs from our partner institutions to showcase to a panel of experts from NSF what makes North Dakota special. Faculty from all 5 Colleges at NDSU are part of FARMS. This is potentially a \$160 million opportunity for all of us, but more importantly, it's a potential game changer for North Dakota. I want to thank everyone who has supported this project for the great work and for representing both NDSU and our state in showing how we can be leaders in powering solutions that feed the world!
- **Equity and Inclusion:** A number of present and upcoming initiatives in this domain; as I noted above, RCA established new Faculty Fellow positions in Broadening Participation and over the coming year, our office will work to implement the needed infrastructure for equitable, respectful and reciprocal nation to nation ethical research collaborations with sovereign tribal nations. The Faculty Research Council itself represents some of the diversity at NDSU with significant parity on gender representation.

Our region is deeply interested in how campus researchers can serve as thought leaders and research role models for our community. Our Faculty Research Council said it was time for a campuswide research initiative. In keeping with all that, we are excited to announce the 12 NDSU speakers who will participate in the BisonSpark Talks on October 16, 23, and 30 (see below).

These Talks will serve as the foundation to deliver on the Council's desire to launch big research ideas during 2023-24 by "sparking" interest in NDSU's key four strategic priorities. Later this year, we will support the initiative with other programming that will eventually result in the competitive selection of individuals to develop teams working on internal proposals, competitively selected and funded in part by the FY 2025 Economic Diversification Research Grants or other internal funds. Stay tuned for more info as we launch this campuswide effort and be sure to join us at the

BisonSpark Talks!

GO BISON!

Colleen

RCA Fellow Sun receives Early Career Researcher of the Year Award

Rex Sun, associate professor of agricultural and biosystems engineering, was recently honored for his research by being named the NDSU College of Engineering Early Career Researcher of the Year.

Sun serves as the Uncrewed Autonomous Systems (UAS) faculty fellow for the NDSU Office of Research and Creative Activity. In addition, he's the associate director for the Center for Digital Agriculture and Big Data at NDSU and director of the NDSU Meat Quality Laboratory Recharge center.



Sun has secured millions of dollars in research funding to support his work in precision agricultural engineering using artificial intelligence and robotic technologies.

Congratulations Dr. Sun on this recognition!

Listening sessions to be scheduled 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.

There will be a series of three in-person listening sessions scheduled – two for faculty and one for staff – to provide an opportunity for campus input and one open Zoom option. In addition, campus will have the option to submit written feedback via a Qualtrics survey. Your participation in this process is highly encouraged.

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

For more information, see the [NDSU AV page >>](#).

We are looking for North Dakota Water Resource Research Institute (NDWRRI) Faculty Fellows

The Office of Research and Creative Activity (RCA) is currently accepting applications for two Faculty Fellows to work within the North Dakota Water Resource Research Institute (NDWRRI).

The NDWRRI's work encompasses a wide range of areas within water resources, including science, technology, management, policy, economics, water quality and water supply. North Dakota has demonstrated a steadfast commitment to establish

itself as a leader in the research, development, and implementation of technology across various facets of water systems.

The NDWRRI is one of fifty sites supported by the US Department of Interior for water resources research integration and falls under the oversight of the Vice President for Research and Creative Activity. Water also falls in one of NDSU's four strategic research priority areas (specifically, food, energy and water security) and the investment in these Fellows aligns with that priority.

As part of this program, up to two Faculty Fellows will be selected to work in close collaboration with both RCA and the NDWRRI. Their primary task will be to identify critical research gaps, tackle pressing issues, and explore opportunities for expanding the NDWRRI's grant-funded research programs and partnerships. This opportunity represents a significant platform for experts in water resources, providing them with the chance to contribute to cutting-edge research and development in North Dakota.

The program seeks to appoint one or two Faculty Fellows for a term of up to two years. These Faculty Fellows will be expected to dedicate approximately four hours per week to crafting and executing a plan aimed at achieving specific outcomes. While applicants from any discipline at NDSU are welcome, a demonstrated interest in some aspect of water research, such as science, technology, applications, water quality, modeling, policy, or related areas, is essential.

While prior direct experience is not mandatory, candidates with limited background in this field should elucidate in their cover letters how they plan to rapidly acquire the necessary knowledge. Candidates of any rank level (assistant/associate/full professor) are encouraged to apply.

RCA will provide a \$10,000 supplement over a one-year term. This can be allocated directly to the Faculty Fellow or provided to the Faculty Fellow's academic department for their use (subject to any institutional or other restrictions that may exist). This funding may be utilized for various purposes including course release, professional development, graduate assistant support, travel, research endeavors, and more.

Potential outcomes from these activities may encompass, but are not restricted to, the development of new water research initiatives or proposals, organization of conferences or convenings, collaborative grant proposals involving diverse campus groups, establishment of private-public partnerships, or other endeavors pertinent to the mission of the Office of Research and Creative Activity. Part of the commitments being made by Faculty Fellows will include professional development, such as research leadership developments, from the Office of Research and Creative Activity.

To apply, forward the following documents to ndsu.rcasearch@ndsu.edu

1. Cover letter (1-2 pages): This should elaborate on your relevant experience and express your keen interest in the position, highlighting how it has equipped you to undertake the proposed work.
2. Statement of Intent: Outline what you aim to accomplish in the role of Water Research Faculty Fellow.
3. Abbreviated Curriculum Vitae (3 pages): Present a concise summary of your professional background, emphasizing key accomplishment and qualifications.
4. Reference Contact: Provide a reference who can affirm your potential to excel in this role.

The application deadline is November 1, 2023 by 5:00 pm. Selections will be finalized by December 1, 2023, with the Faculty Fellow assuming duties on January 1, 2024.

You can get updates about this search on the [NDWRRRI Faculty Fellows page >>](#)

Mark your calendar for October 16, 23, and 30



Our group of final presenters has been selected and you are cordially invited to discover some of the great research ideas happening at NDSU.

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 >>](#)

Curiosity Week Bus Tour

You are invited to join us during Emerging Prairie's Curiosity Week as we open the doors to the NDSU campus to the community and share the tools and resources we have available for entrepreneurs, industry partners, and students.



The NDSU Research Facilities Bus Tour will occur on October 9, 2023 from 9 a.m. to noon.

FEATURED BUS STOPS

The Dalrymple Research Greenhouse provides a state-of-the-art facility to advance current research capabilities at NDSU. The facilities provide for advanced research in plant breeding, genetics, horticulture, entomology, plant pathology, plant nutrition and associated disciplines. In addition to greenhouse rooms, the facility has research labs and equipment available, including spray booths, misting chambers, seed drying, seed cleaning, long-term seed storage, growth chambers, vernalization chambers, prep rooms and cleaning rooms.

The Technology Incubator is designed to assist emerging technology-related companies grow. Opened in 2007, the 49,757-square foot facility is located in the NDSU Research and Technology Park. The incubator offers entrepreneurs such things as state-of-the-art facilities, laboratory space, shared production areas, conference rooms, customizable tenant space, common reception area, T1 lines and dedicated data rooms. The Innovation Studio is a cutting edge maker-space with equipment that encourages innovation, sparks creativity and promotes entrepreneurship. At the Innovation Studio, we work hard to create an innovative culture that fosters ingenuity and experimentation. As inventors and entrepreneurs seek to create their first prototype, the NDSU Innovation Studio provides them with access to the equipment and services they need to quickly succeed.

The NDSU Electron Microscopy Center is a service facility involved in both scientific research and all levels of outreach from K-12 to other colleges. Part of its mission is stimulating interest in science, mathematics, engineering, and technology: active student involvement can generate more excitement than a traditional didactic

approach. The Center's \$300,000 JEOL JSM-6490LV scanning electron microscope is available on-line for just such hands-on use. Operation of the SEM will be explained and demonstrated via a remote internet connection by Center staff Jayma Moore and Scott Payne. Technological solutions like this one can provide access and support for a variety of scholastic and entrepreneurial endeavors.

HOW TO JOIN:

- **If you are already registered for Curiosity Week**
Register through Curiosity Week's process. The Curiosity Week bus will depart from and return to the Jasper Hotel in Downtown Fargo.
- **NDSU students, leadership, faculty, and staff**
RSVP through MyNDSU. This bus will depart from and return to Memorial Union on NDSU Campus.
- **Industry partners, elected officials, and members of the public**
E-mail Cindy Graffeo (Cynthia.graffeo@ndsu.edu) to claim a spot. This bus will depart from and return to Memorial Union on NDSU Campus.

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. Three best posters will be awarded with prizes.

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. Read the [full list of speakers and agenda](#).

[Register by October 4, 2023 >>](#)

NORTH DAKOTA

gener8tor Startup Connections

During Curiosity Week 2023, gener8tor North Dakota will be facilitating Startup Connections between investors and startups. Given the number of investors and corporations coming into Fargo during the Prairie Capital Summit, this is an opportunity for any North Dakota startup interested in meeting with venture capital funds to pitch their company or receive feedback.

Startups must submit an application to participate. Once the application period closes, the gallery of eligible startups will be shared with participating investors and corporate innovation partners. Startups selected by the investors and partners will be connected to set up individual meetings.

This is an opportunity to get your startup in front of active investors, angels, and corporate innovation partners.

- **Application Deadline: October 4, 2023**
- **Open to all startups; industry agnostic but startups must have a nexus to North Dakota.**

[More information and application >>](#)



**National Institutes
of Health**

Request for Information (RFI): Inviting Comments and Suggestions on Updating the NIH Mission Statement

As the largest public funder of biomedical and behavioral research in the world, NIH works to turn scientific discoveries into better health for all. This RFI will inform NIH's efforts to update its mission statement to ensure that it reflects the NIH mission as accurately as possible.

This RFI invites input from interest groups throughout the scientific research, advocacy, and clinical practice communities, those employed by NIH or at institutions receiving NIH support, and the public, on a proposed revised mission statement.

- **Current mission statement:**
"To seek fundamental knowledge about the nature and behavior of living

systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability."

- **Proposed revised mission statement:**
"To seek fundamental knowledge about the nature and behavior of living systems and **to apply** that knowledge **to optimize health and prevent or reduce illness for all people.**"

See guide notice [NOT-OD-23-163](#) for more information.

CONSERVATION CENTER

for Art & Historic Artifacts

Free Resources for preserving and boosting access to your cultural heritage collections

Our awardees' projects produce free resources for the preservation and humanities fields!

The Conservation Center for Art & Historic Artifacts used a \$350,000 Education and Training grant to create these and other [recorded webinars](#):

- [Digitization 101 \(series\)](#): Six webinars that highlight specific topics related to planning and completing digitization projects.
- [Forget the Best: Good and Better Approaches to Preservation](#): Practical ways to make preservation part of any collections care program—even with few to no dedicated resources.
- [An Introduction to the Collections Management Policy Toolkit](#): A tool that allows users to build a customized Collections Management Policy for their

organization or collection.

- ["You don't have to be special to use Special Collections!"](#): A discussion of how any interested person might make use of collections.

WGBH Media Library and Archive's \$187,000 Education and Training grant just translated their whole PBCore website and associated documentation [into Spanish](#). PBCore is a metadata schema for public broadcasting. Resources include guides on cataloging, finding software that supports PBCore, and a full implementation [handbook](#).

The banner features a silhouette of a pregnant woman on the left, surrounded by icons representing various medical and diagnostic concepts: a blood drop with a plus sign, a heart with an ECG line, a test tube, lungs, a fetal monitor, and a syringe. To the right, the text reads "RADx® Tech Fetal Monitoring Challenge" in a large, dark blue font. Below this, the NIH logo is displayed, consisting of the letters "NIH" in a dark grey box with a blue arrow pointing right, followed by the text "National Institutes of Health" and the tagline "Turning Discovery Into Health" in a smaller font.

RADx® Tech
Fetal Monitoring
Challenge

NIH National Institutes of Health
Turning Discovery Into Health

The Rapid Acceleration of Diagnostics Technology (RADx® Tech) Fetal Monitoring Challenge will award up to \$2 million in prizes to accelerate the development of diagnostic and monitoring technologies to reduce the risk of fetal morbidity and mortality and thus improve fetal and neonatal health outcomes. Successful technologies developed in this Challenge will directly measure one or more parameters of fetal health status during the late antepartum and/or intrapartum periods of pregnancy. These parameters will be used to provide actionable information that can be used for clinical decision-making and be implementable at either the point of care or in a home-based setting.

Examples of desired technologies include, but are not limited to, wearable devices, smartphone-enabled diagnostic tools, integrated sensing and/or imaging technologies, digital health platforms, and in vitro diagnostic devices or tests. Importantly, technologies must have a reasonable likelihood of market entry within the next 5 years and must have strong potential for accessible, cost-effective use and impact in low-resource settings, such as low- and middle-income countries as well as areas of high-income countries where there is limited access to high-quality prenatal healthcare.

Awards

The total prize purse for this Challenge is \$2,000,000. Prizes will be awarded following the successful completion of each phase of the Challenge in the following amounts:

- Phase 1 – \$5,000 per winner; up to 10 winners will be selected as semi-finalists to advance to Phase 2
- Phase 2 – \$75,000 per winner; up to 6 winners will be selected as finalists to advance to Phase 3
- Phase 3:
 - 1st place = \$750,000
 - 2nd place = \$400,000
 - 3rd place = \$200,000
 - Runner ups = 3 prizes at \$50,000 each

Important Dates

- Informational Webinar: October 5, 2023 at 2:00pm CT | [Register](#)
- Phase 1 Submission Deadline: November 17, 2023, at 11:59pm ET
- Phase 1 Winners Announced: December 15, 2023 (anticipated)

[Complete information is available on the Challenge.gov RADx site >>](#)

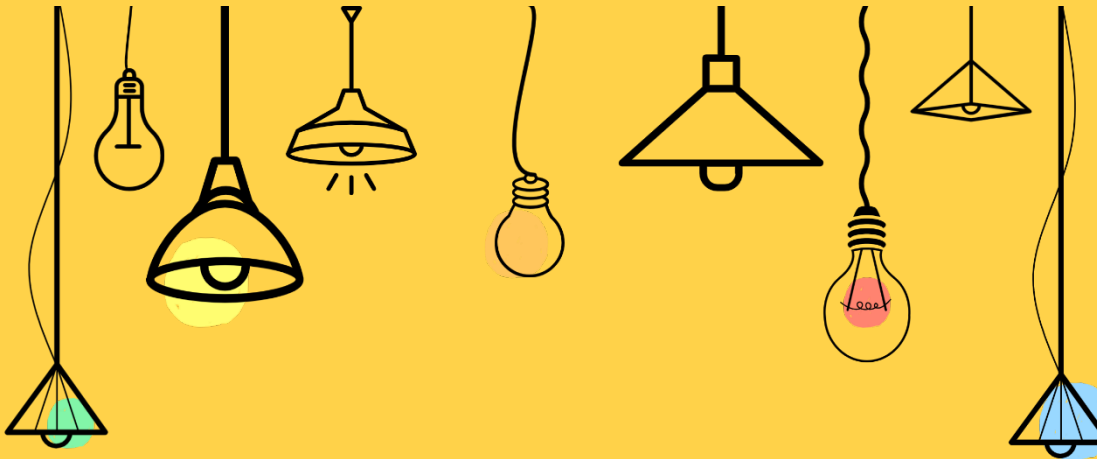


U.S. Department of Health and Human Services
Office of Inspector General

HHS: Warning about fake grants being offered online

An OIG HHS Fraud Alert was recently featured on Good Morning America. This alert details offers of fake grants to help pay off debts such as student loans, but experts say it's a trick for thieves to get your personal information and money.

[Learn more >>](#)



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 >>](#)
 - **Curiosity Week Bus Tour**
October 9, 2023 | [Learn More >>](#)
 - **BisonSpark Talks**
October 16, 23, 30 | [Learn More >>](#)
 - **2023 Conference on Computational Science**
October 18, 2023 | [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 >>](#)
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Funding Opportunities

- [CDC: Rigorous Evaluation of Policies for their Impacts on the Primary Prevention of Multiple Forms of Violence](#)
- [Columbia Journalism School: J. Anthony Lukas Work-in-Progress Award](#)
- [DoD: DARPA - Intensity-Squeezed Photonic Integration for Revolutionary Detectors](#)
- [DoD: DARPA - Forward-Looking Experimentation](#)
- [DOE: Innovative Designs for High-Performance Low-Cost HVDC Converters \(IDEAL HVDC\) - LIMITED](#)
- [DOI: Great Lakes Fish and Wildlife Restoration Act FY23](#)
- [Ford Foundation: JustFilms](#)
- [HRSA: Healthy Start Initiative - Eliminating Disparities in Perinatal Health - LIMITED](#)
- [Institute for Citizens and Scholars: Mellon Emerging Faculty Leaders Award](#)
- [NIH: Identifying Innovative Mechanisms or Interventions that Target Multimorbidity and Its Consequences](#)
- [NIH: Improving Care and Outcomes for Cancer Survivors from Sexual and Gender Minority \(SGM\) Populations](#)
- [NIH: NOSI - Pragmatic Trials in Low Resource Settings](#)
- [NIH: Time-Sensitive Research Opportunities in Environmental Health Sciences](#)
- [NSF: Accelerating Research through International Network-to-Network Collaborations](#)
- [NSF: Communications, Circuits, and Sensing-Systems](#)
- [NSF: DCL - Research Assistantships for High School Students: Funding to Broaden Participation in the Biological Sciences](#)
- [NSF: Division of Environmental Biology](#)
- [NSF: Focused Research Groups in the Mathematical Sciences](#)
- [NSF: Research in the Formation of Engineers](#)
- [RWJF: Evidence for Action: Innovative Research to Advance Racial Equity](#)
- [W.M. Keck Foundation: Phase I – LIMITED](#)

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.

- [DOE: Innovative Designs for High-Performance Low-Cost HVDC Converters \(IDEAL HVDC\)](#)

Notification Deadline: October 17, 2023

- [HRSA: Healthy Start Initiative - Eliminating Disparities in Perinatal Health](#)

Notification Deadline: October 30, 2023

- [W.M. Keck Foundation: Phase I](#)

Notification Deadline: October 15, 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.

- [Mathers Foundation: Grant Program \(STEM\)](#)

Deadline: LOI December 1, 2023

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CDC: Rigorous Evaluation of Policies for their Impacts on the Primary Prevention of Multiple Forms of Violence

The Centers for Disease Control and Prevention (CDC), is soliciting research proposals [[RFA-CD-24-034](#)] to expand the evidence base for policy approaches for the primary prevention of multiple forms of violence experienced by children, youth, and adults. Policies that promote the social and economic well-being of populations and address community characteristics associated with violence have the potential to not only reduce rates of multiple forms of violence, including the five forms that are the focus of this announcement: child abuse and neglect, youth violence, community violence, intimate partner violence (including teen dating violence), and sexual violence, but also impact health equity. To advance CDC's commitment to achieving health equity, the intent is to support applications that investigate policies that address social and structural conditions

to reduce the disproportionate burden of violence experienced by some groups and communities.

Deadline: December 1, 2023

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

Established in 1998, the [J. Anthony Lukas Prize Project Award](#) recognize excellence in nonfiction that exemplifies the literary grace and commitment to serious research and social concern. 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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DoD: DARPA - Intensity-Squeezed Photonic Integration for Revolutionary Detectors (INSPIRED)

The principal objective of the Intensity-Squeezed Photonic Integration for Revolutionary Detectors ([INSPIRED](#)) program is the development of optoelectronic detector modules that integrate squeezed-light measurement techniques into form factors comparable to commercial photodetector modules, thereby achieving sensitivity significantly beyond the quantum shot-noise limit. Such “squeezed-light detectors” will be transformative in advancing squeezed-light quantum measurement beyond laboratory environments as practical, general-purpose detector components that can be employed in diverse optical systems. The superior sensitivity of squeezed-light detectors is expected to provide decisive quantum advantages in wide-ranging application domains such as active imaging; atomic sensing; navigation; microscopy; and communications.

Deadline: Abstract: October 20, 2023; 3PM

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DoD: DARPA - Forward-Looking Experimentation (FLEX)

The Forward-Looking Experimentation ([FLEX](#)) Research Announcement (RA) is soliciting innovative proposals addressing grand challenges in information and communication technologies (ICT). This RA seeks proposals for cooperative agreements only. Proposals must address only one of the seven (7) Topic Areas (TA), and must identify the selected TA in the proposal cover page. Proposers are limited to submitting only one full proposal per TA under this announcement. Proposals are expected to explore technical solutions to address the TA's technical challenges, and create disruptive breakthroughs in critical areas. Proposed research should investigate innovative approaches that enable revolutionary advances in science, devices, or systems.

The seven FLEX topics are:

- Cognition
- Communications and Connectivity
- Intelligent Sensing to Action
- Systems and Architectures for Distributed Compute
- Intelligent Memory and Storage
- Advanced Monolithic and Heterogeneous Integration
- High-performance Energy-Efficient Devices for Digital and Analog Applications

Deadline: Applications are accepted on a rolling basis until August 9, 2024

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DOE: Innovative Designs for High-Performance Low-Cost HVDC Converters (IDEAL HVDC) - 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 October 17, 2023, 5pm, if you are interested in submitting to this

program.

The research and development (R&D) activities to be funded under this FO [\[DE-FOA-0003141\]](#) will support the government-wide approach to the climate crisis by driving the innovation that can lead to the deployment of clean energy technologies, which are critical for climate protection. Specifically, this FO will invest in R&D to support continued innovation and cost reduction for high-voltage direct current (HVDC) voltage-source converter (VSC) transmission systems. This investment is intended to enable future grid upgrades required to integrate increasing renewable energy generation on to the grid, both onshore and offshore. Rapid deployment at scale for wind and other renewable resources requires cost-effective transmission solutions. Some of the highest quality wind resources in the United States are located offshore. The Administration has set a near-term offshore wind deployment goal of 30 gigawatts (GW) by 2030 and achieving it could unlock a pathway to 110 GW by 2050. Along the Atlantic and Pacific coasts, many states have set their own procurement goals for offshore wind development. HVDC transmission can connect large amounts of new geographically diverse variable renewable energy resources that are far from load centers. As a result, HVDC transmission can facilitate achievement of the Administration's goal of 100% carbon-free electricity by 2035. In addition to planning and siting challenges, cost is a critical barrier to widespread adoption and deployment of HVDC systems. Currently, HVDC system cost is driven by the converter substation given its increased complexity compared to HVAC systems. This FO aims to address this barrier by investing in innovative solutions to reduce the cost of HVDC VSC technology.

Cost share is required of at least 20% of the total project cost.

LIMITED SUBMISSION: Only one application per institution.

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DOI: Great Lakes Fish and Wildlife Restoration Act FY23

The U.S. Fish and Wildlife Service requests interested entities to submit [research, restoration, and Regional Project proposals](#) for the restoration of the Great Lakes Basin

fish and wildlife resources. The purpose of the Great Lakes Fish and Wildlife Restoration Act (GLFWRA) is to provide assistance to States, Indian Tribes, and other interested entities to encourage cooperative conservation, restoration, research, and management of the fish and wildlife resources and their habitats in the Great Lakes Basin. All proposals should focus on the restoration and or research of fish and/or wildlife resources in the Great Lakes Basin and should be consistent with the goals of the [Great Lakes Fish and Wildlife Restoration Act of 2016](#) and the recommendations of the Great Lakes Regional Collaboration’s [“Strategy to Restore and Protect the Great Lakes.”](#)

Funded Proposals will:

- Restore and maintain self-sustaining fish and wildlife resources
- Minimize the impacts of contaminants on fishery and wildlife resources
- Protect, maintain, and where degraded and destroyed, restore fish and wildlife habitat, including the enhancement and creation of wetlands that result in a net gain in the amount of those habitats
- Stop illegal activities adversely impacting fishery and wildlife resources
- Restore threatened and endangered species to viable, self-sustaining levels
- Protect, manage, and conserve migratory birds

There is a 25% cost share requirement.

Deadline: December 31, 2023



Ford Foundation: JustFilms

The JustFilms program supports artist-driven film and new media storytelling projects that explore aspects of inequality, as well as the organizations and networks that support these projects. The Ford Foundation accepts inquiries for grants year-around that help push forward their mission to provide a world “in which all individuals, communities, and peoples work toward the protection and full expression of their human rights; are active participants in the decisions that affect them; share equitably in the knowledge, wealth, and resources of society; and are free to achieve their full potential.”

This [project submission](#) will be based on the following criteria: artistic excellence, contemporary relevance, alignment with Ford priorities, potential for strategic impact, potential to transform stereotypes – beliefs – and value systems, creativity and innovation in form and the potential to build cultural power and voice in marginalized communities.

HRSA: Healthy Start Initiative - Eliminating Disparities in Perinatal Health - 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 ndsuhresearchdev@ndsuh.edu by **close of business** on the notification deadline date.

Notify RCA by October 30, 2023, 5pm, if you are interested in submitting to this program.

The purpose of Healthy Start (HS) is to improve health outcomes before, during, and after pregnancy and reduce the well-documented racial/ethnic differences in rates of infant death and adverse perinatal outcomes. HS is intended to support projects in communities and populations experiencing the greatest disparities in maternal and infant health outcomes. HS has two focus areas: 1) providing direct and enabling services -- for example, screening and referrals, case management and care coordination, health and parenting education, and linkage to clinical care to enrolled HS participants; and 2) convening Community Consortia (formerly known as Community Action Networks or "CANs") comprised of diverse, multi-sector partners to advise and inform HS activities as well as to develop and implement plans to improve perinatal outcomes within the selected project area. HS continues to have an increased emphasis on addressing social determinants of health, such as access to adequate food, housing, and transportation, to improve disparities in maternal and infant health outcomes. This FY 2024 HS competition also provides recipients with flexibility to tailor interventions to the unique needs of their community and/or target population.

The goals of HS are to:

1. Continue reducing infant mortality rates in the United States
2. Decrease disparities in infant mortality and poor perinatal health outcomes in areas where those rates are high.

LIMITED SUBMISSION: Only one application per institution.



Institute for Citizens and Scholars: Mellon Emerging Faculty Leaders Award

The [Mellon Emerging Faculty Leaders](#) (MEFL) are building inclusive campus communities through their teaching, scholarship, and service. Awardees are early-career faculty whose research focuses on contemporary American history, politics, culture, and society. In addition to bringing a diversity of perspectives to their fields, MEFL awardees are building support systems, networks, and affinity groups for their students and peers.

Deadline: December 1, 2023; 4PM



NIH: Identifying Innovative Mechanisms or Interventions that Target Multimorbidity and Its Consequences

This Funding Opportunity (FO) [[PAR-20-180](#)] invites applications that seek to support the identification of shared mechanisms and development of innovative interventions to address multimorbidity or multiple chronic conditions (MCCs) and its consequences. Intervention research supported by this initiative should be designed to study: (1) mechanisms or pathways that prevent MCCs, including the identification of early biomarkers, behavioral pathways, and individual and contextual risk factors and interactions that contribute to the development of common MCCs; (2) targeted therapies and management, including self-management, of MCCs to delay progression and prevent onset of new diseases; and (3) innovative health care partnership models for managing or treating MCCs. Studies may include shared mechanisms, and assessments of interactions between risk factors and interventions that address MCCs at different periods of the lifespan in diverse populations. Use of innovative technologies to assess and intervene on risk factors and pathways are encouraged. Studies may also include those that make use of existing data and/or data linkages to explore new research questions that may be

helpful in understanding the impact of mechanisms in isolation or in combination. Of particular interest are interventions that target prevention and treatment of multiple chronic health conditions, including study designs that address therapeutic targets for preventing co-occurring MCCs.

Deadline: February 5, 2024

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NIH: Improving Care and Outcomes for Cancer Survivors from Sexual and Gender Minority (SGM) Populations (R01 Clinical Trial Optional)

Through this Funding Opportunity (FO) [[PAR-23-292](#)], the NIH intends to support the rigorous assessment of barriers to quality cancer treatment and follow-up care for sexual and gender minority (SGM) cancer survivors. This funding opportunity is intended to address a critical need for improved care delivery and outcomes for SGM cancer survivors. The goal is to address the disease burden in an underserved and understudied population that is at higher risk of poorer health outcomes. The NIH solicits proposals for observational and/or interventional studies of SGM survivors designed to understand barriers and/or improve care and outcomes for SGM people with cancer, using interoperable sexual orientation and gender identity (SOGI) data collection in cancer care settings, where appropriate.

Deadline: February 5, 2024

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NIH: NOSI - Pragmatic Trials in Low Resource Settings

The NIH encourages applications for pragmatic clinical trials [[NOT-CA-23-078](#)] to generate evidence that directly informs decision-making among patients, providers, health systems, communities, and policy makers in low- and middle-income countries (LMICs) with the goal of improving efficiency, quality, and access for cancer care in resource-constrained settings. The proposed pragmatic trial should (1) be patient-centered, defined as those that involve patients in the trial design and execution to ensure that trial outcomes are relevant and meaningful to patients; (2) be designed to address local disease burdens and health systems and to incorporate input from LMIC stakeholders whose needs, resources, capacities, and priorities are reflected in the study design; (3) include at least one

intervention condition and at least one control or comparison condition. Trial designs may be randomized or non-randomized but must be pragmatic. Applications should propose to develop and test new or existing intervention(s) that currently lack adequate evidence and/or are not well established in LMIC settings.

This NOSI applies to application due dates on or after October 17, 2023, and subsequent receipt dates through November 18, 2025

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NIH: Time-Sensitive Research Opportunities in Environmental Health Sciences

This funding opportunity announcement (FOA) [[RFA-ES-23-004](#)] is intended to support novel environmental health research in which an unpredictable event or policy change provides a limited window of opportunity to collect human biological samples or environmental exposure data. The primary motivation of the FOA is to understand the consequences of natural and human-made disasters, emerging environmental public health threats, and policy changes in the U.S. and abroad. A distinguishing feature of an appropriate study is the need for rapid review and funding, substantially shorter than the typical NIH grant review/award cycle, for the research question to be addressed and swiftly implemented.

Upcoming Deadlines: December 1, 2023; February 1, April 1, 2024....

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NSF: Accelerating Research through International Network-to-Network Collaborations

The Accelerating Research through International Network-to-Network Collaborations program (AccelNet) [[NSF 23-619](#)] values cooperation over competition. Program goals are to 1) leverage prior NSF support for building research capacity towards activities that launch international research network of networks (NoN) that will lead to an accelerated advancement of an area of science after the award period and 2) recruit and foster a diverse and internationally competent US-based workforce trained in conducting and leading multi-team international collaboration. Any area funded by the National Science Foundation is eligible, particularly those addressing grand research challenges identified within research communities and/or by NSF.

Successful proposals will demonstrate that the proposed activities will:

1. accelerate scientific research at a rate that would not be possible without concerted international cooperation in research planning
2. make NoN members more competitive for research awards following the period of award
3. recruit and foster a US-based diverse and internationally competent workforce trained in conducting and leading multi-team international collaboration.

Proposals must include detailed plans for collaborative networking activities that will result in a synergy of effort across the entire NoN.

Deadline: December 11, 2023

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NSF: Communications, Circuits, and Sensing-Systems (CCSS)

The Communications, Circuits, and Sensing-Systems (CCSS) Program [[PD 18-7564](#)] supports innovative research in circuit and system hardware and signal processing techniques. CCSS also supports system and network architectures for communications and sensing to enable the next-generation cyber-physical systems (CPS) that leverage computation, communication, and sensing integrated with physical domains. CCSS invests in micro- and nano-electromechanical systems (MEMS/NEMS), physical, chemical, and biological sensing systems, neurotechnologies, and communication & sensing circuits and systems. The goal is to create new complex and hybrid systems ranging from nano- to macro-scale with innovative engineering principles and solutions for a variety of applications including but not limited to healthcare, medicine, environmental and biological monitoring, communications, disaster mitigation, homeland security, intelligent transportation, manufacturing, energy, and smart buildings. CCSS encourages research proposals based on emerging technologies and applications for communications and sensing such as high-speed communications of terabits per second and beyond, sensing and imaging covering microwave to terahertz frequencies, personalized health monitoring and assistance, secured wireless connectivity and sensing for the Internet of Things, and dynamic-data-enabled autonomous systems through real-time sensing and learning.

Deadline: Proposals accepted ANYTIME

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NSF: DCL - Research Assistantships for High School Students (RAHSS): Funding to Broaden Participation in the Biological Sciences

The National Science Foundation (NSF) is committed to the inclusion of all people and institutions in the research enterprise because all are vital to the nation's health, security, and global leadership in STEM. Strategies to successfully broaden participation in research projects through efforts to promote diversity, equity, and inclusion of individuals and institutions traditionally underrepresented in STEM during pre-college years will help ensure a diverse pool of future students, faculty and researchers [[NSF 23-145](#)]. As a part of a new or renewal NSF proposal or as a supplemental funding request to an existing NSF Award, the Directorate for Biological Sciences (BIO) will consider requests that:

- Foster interest in the pursuit of studies in the Biological Sciences; and
- Broaden participation of high school students, particularly individuals from those groups underrepresented in STEM to encourage participation of the full spectrum of diverse talent that society has to offer.

See BIO Organizations [websites](#) for deadlines dates.

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NSF: Division of Environmental Biology

The Division of Environmental Biology (DEB) [[NSF 23-549](#)] supports research and training on evolutionary and ecological processes acting at the level of populations, species, communities, and ecosystems. DEB encourages research that elucidates fundamental principles that identify and explain the unity and diversity of life and its interactions with the environment over space and time. Research may incorporate field, laboratory, or collection-based approaches; observational or manipulative studies; synthesis activities; phylogenetic discovery projects; or theoretical approaches involving analytical, statistical, or computational modeling. Proposals should be submitted to the core clusters (Ecosystem Science, Evolutionary Processes, Population and Community Ecology, and Systematics and Biodiversity Science).

DEB also encourages interdisciplinary proposals that cross conceptual boundaries and integrate over levels of biological organization or across multiple spatial and temporal scales. Research addressing ecology and ecosystem science in the marine biome should be directed to the Biological Oceanography Program in the Division of Ocean Sciences; research addressing evolution and systematics in the marine biome should be directed to

the Evolutionary Processes or Systematics and Biodiversity Science programs in DEB.

Deadline: Proposal accepted ANYTIME

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NSF: Focused Research Groups in the Mathematical Sciences

The purpose of the Focused Research Group activity [[NSF 23-621](#)] is to support collaborative groups employing innovative methods to solve specific, major research challenges in the mathematical sciences. A major challenge is an outstanding problem of significant importance that requires the focused and synergistic efforts of a collaborative group to solve, and whose solution will have wide impacts in the mathematical sciences and potentially in other areas. Groups may include, in addition to statisticians and mathematicians, researchers from other science and engineering disciplines appropriate for the proposed research. Risky projects are welcome. Interdisciplinary projects are welcome. Projects should be timely, limited in duration to up to three years, and substantial in their scope and impact for the mathematical sciences.

Deadline: December 6, 2023

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NSF: Research in the Formation of Engineers

The goal of the Research in the Formation of Engineers (RFE) program [[PD 24-1340](#)] is to advance the understanding of professional formation. It seeks both to deepen the fundamental understanding of the underlying processes and mechanisms that support professional formation and to demonstrate how professional formation is or can be accomplished. Ultimately RFE aims to transform the engineer-formation system, and thus the impact of proposed projects on this system must be described. Principal Investigators (PIs) should provide a roadmap detailing how they envision the proposed research will eventually broadly impact practice within the engineer-formation system, even if these activities are not within the scope of the submitted proposal.

In order to accomplish its goals, RFE welcomes proposals in two categories: Research Projects, and Design and Development Projects. Research Projects address fundamental questions of professional formation, while Design and Development Projects provide new approaches to achieving professional formation.

Deadline: Proposals accepted ANYTIME



RWJF: Evidence for Action: Innovative Research to Advance Racial Equity

Evidence for Action (E4A) prioritizes research to evaluate specific interventions that have the potential to counteract the harms of structural and systemic racism and improve health, well-being, and equity outcomes. The focus on racial equity means there is concern for the direct impacts of structural racism on the health and well-being of people and communities of color, as well as the ways in which racism intersects with other forms of marginalization, such as having low income, being an immigrant, having a disability, or identifying as LGBTQ+ or a gender minority.

This funding is geared toward studies about “upstream” causes of health inequities, such as the systems, structures, laws, policies, norms, and practices that determine the distribution of resources and opportunities, which in turn influence individuals’ options and behaviors. Research should center on the needs and experiences of communities exhibiting the greatest health burdens and be motivated by real-world priorities. It should be able to inform a specific course of action and/or establish beneficial practices, not stop at characterizing or documenting the extent of a problem.

Deadline: Applications accepted on a rolling basis



W.M. Keck Foundation: Phase I – 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 October 15, 2023, 5pm, if you are interested in submitting to this program.

The [W. M. Keck Research Program](#) seeks to benefit humanity by supporting Medical Research and Science & Engineering projects that are distinctive and novel in their approach, question the prevailing paradigm, or have the potential to break open new territory in their field. Founded with the goal of generating far-reaching benefits for humanity and following the ideals of our founder, the Keck Foundation's programs support outstanding science, engineering and medical research. The Keck Foundation strives to fund endeavors that are distinctive and novel in their approach. It encourages projects that are high-risk with the potential for transformative impact. "High-risk" comprises a number of factors, including questions that push the edge of the field, present unconventional approaches to intractable problems, or challenge the prevailing paradigm.

LIMITED SUBMISSION: Only one application per Institution per Cycle.



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.