

NDSU OFFICE OF
RESEARCH AND CREATIVE ACTIVITY

RCA UPDATE

April 3, 2023

Touring Omid Beik's ePowerHubs Lab

NDSU Interim Dean of Engineering Alan Kallmeyer, Chair of Electrical and Computer Engineering Ben Braaten, and Interim Chair of Mechanical Engineering Chad Ulven joined Colleen Fitzgerald on a tour of Omid Beik's ePowerHubs lab.



The group heard from both undergraduate and graduate students who are involved in research about energy creation and delivery systems with uses ranging from

making electric motors more efficient for space vehicles to creating new "plug and play" systems that can accept energy from varied types of generation devices. The students also showed how they have developed hands-on learning skills like soldering by displaying customized circuits they created.

The tour was a perfect showcase for how NDSU Engineering trains field-ready engineers for the workforce – in fact, some of the students already have job offers from companies like John Deere.

Thanks to Dr. Beik and his students!



RCA Hosts NSF Sessions

Kelvin Chu, PhD, President and COO of The Implementation Group, presented program and proposal writing sessions on the National Science Foundation (NSF) CAREER Program and the NSF EPSCoR Track 2 and 4 programs to NDSU faculty on March 30. Approximately 30 faculty participated in these interactive sessions, learning details on the programs, tips for proposal writing, and strategies for development of ideas.



- The [NSF Faculty Early Career Development \(CAREER\) Program](#) is a Foundation-wide activity that offers NSF's most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education.
- The [NSF EPSCoR Track 2 Program](#) supports interjurisdictional teams of EPSCoR investigators to perform research in emerging industries, with a goal of promoting economic growth in their jurisdictions.
- The [NSF EPSCoR Track 4 Program](#) supports early-career investigators to go on extended collaborative visits to private, government or academic research centers.



Thank you to NDSU NSF CAREER awardees Ying Huang, Britt Heidinger, Mohi Quadir, Dmitri Kilin, Laura Aldrich-Wolfe, and Trung Le for taking the time to participate in the CAREER Luncheon panel and to share your insights and experiences with NDSU colleagues.

RIC Office renamed to Office of Research Compliance and Security

Our office would like to announce that the Research Integrity and Compliance office will be renamed to the Office of Research Compliance and Security (RSC) to reflect incorporation of **research security** into the key functions of this office. The RSC office will continue to be responsible for implementation, maintenance and assessment of all essential research integrity, and compliance activities.

The elevation of the security component is a result of increasing federal scrutiny on research security since 2018 and NDSU's efforts to address emerging requirements related to research security (including data management, cybersecurity, research security and export control training, etc.) and mitigating risks related to the potential for foreign influence in research.

Our office is reinstating a previously eliminated Director role to lead the RSC office. This is not a new line, but is the line vacated by the recent departure of Aaron Reinholz for his new role in Ag. Current RIC Manager Kristy Shirley will lead the search process for the new Director. The open position is available [here](#).

The RCS team will implement the programs necessary to ensure achievement of the objectives of an effective integrity, compliance, and security program and assist faculty, staff and students to understand and comply with federal, state and university regulations/laws/policies for funded and unfunded research. Areas of oversight and administrative support include but are not limited to research security, export controls, research involving vertebrate animals, human subjects, biosafety, dual-use research of concern, controlled substances, financial conflicts of interest or conflicts of commitment related to research, unmanned aerial vehicle compliance, and research misconduct. Additionally, the Director will serve as the Research Integrity Officer and will develop and implement educational and training programs for the responsible conduct of research.

The Research Compliance and Security (RCS) office will be comprised of the new Director, who will report to VPR Colleen Fitzgerald, and two direct reports: Kristy Shirley (RIC Manager) and Sharon May (Export Control Manager). IACUC and IBC Administrator Tania Molden and the IRB Administrator position (search currently wrapping up) will report to Kristy Shirley. Attending Veterinarian Neil Dyer will remain a part of the RCS unit but will continue to report to VPR Fitzgerald.

WE'RE SEARCHING FOR OUR NEXT DIRECTOR OF RESEARCH COMPLIANCE AND SECURITY

This person will be responsible for the implementation, maintenance and assessment of all essential research integrity, compliance and security activities, as well as management of related issues/concern within the university that fall under the purview of the RCA Office.

The Director will also serve as the Research Integrity Officer and will have expansive knowledge of federal (and potentially state) laws governing research integrity, compliance and security.

<https://tinyurl.com/NDSU-RCS-DIRECTOR>

NDSU | RESEARCH AND CREATIVE ACTIVITIES

What is Responsible Conduct of Research?

Responsible conduct of research (RCR) is the practice of conducting scientific investigation with integrity. RCR involves awareness and application of established professional norms and ethical principles to the performance of all activities related to scientific research.



RCR training covers topics such as research misconduct, data acquisition, management, sharing and ownership, mentor/trainee responsibilities, publication practices, responsible authorship, peer review, collaborative science, conflicts of interest, in addition to the protection of human or animal subjects in research (as applicable).

The National Institutes of Health (NIH), National Science Foundation (NSF), and

USDA NIFA require training for investigators conducting who conduct agency-supported research. The personnel required to complete training varies by agency:

- [NSF](#) requires RCR training for faculty and other senior personnel and postdoctoral researchers, graduate and undergraduate students who are conducting NSF sponsored research.
- [USDA NIFA](#) requires RCR training for program directors, faculty, undergraduate students, graduate students, postdoctoral researchers, and any staff participating in a research project.
- [NIH](#) requires RCR instruction for all trainees, fellows, participants, and scholars receiving support through any NIH training, career development award, research education grant, and dissertation research grant; or as otherwise stated in the relevant funding opportunity announcement.

More information about and instructions about completing RCR training can be found on the [RCR website](#) or in [NDSU Policy 348](#).

Questions? Contact Kristy Shirley (Kristy.shirley@ndsu.edu or 701.231.8995)



ND EPSCoR Executive Director Search

North Dakota Established Program to Stimulate Competitive Research (ND EPSCoR) plays a vital role statewide by building research capacity, broadening participation, enhancing the research productivity, competitiveness and national recognition of North Dakota's scientists and engineers, increasing participation in STEM, research, and at all stages of the educational pipeline, and advances economic development. NDSU is seeking a new Executive Director for the ND EPSCoR office. The position duties include supporting the Research Infrastructure Improvement (RII) Track-1 cooperative agreement and its activities and personnel as well as non-RII Track-1

statewide programming under the auspices of ND EPSCoR.

Two applicants for this position will give 20-minute presentations on their vision for moving ND EPSCoR forward, strategies for building relationships and capacity for success. Q&A will follow the presentations. We invite you to attend either in person or [online](#):

- **Khwaja Hossain, PhD**
Tuesday, April 11, 2023 | 11:00am | NDSU FLC Building; Room 124 [[map](#)]
- **Jolynne Tschetter, PhD**
Wednesday, April 12, 2023 | 11:00am | NDSU Morrill Hall; Room 103 [[map](#)]

Information on candidate application materials, as well as zoom links for the presentations and feedback forms can be found on the [search website](#).

These presentations will be recorded and made available on the website for those unable to attend. Feedback forms will be due by 5pm on Monday, April 17.



On May 4th, 2023, you are invited to an open house and lab tour at the

NDSU Corrosion & Coatings Applied Research Lab (CCARL) in R1 (1735 NDSU Research Park Dr Fargo).

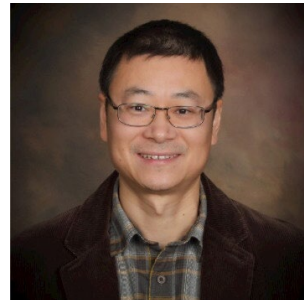
The CCARL research goals include understanding and advancing integrated corrosion coating formulation with applications in the following areas: corrosion prevention solutions, high-temperature materials, tough and strong coatings, healable and reversible coatings, and robust surfaces.

This is your opportunity to learn about the work of Dr. Qi and his undergraduate and graduate students.

Agenda

- 10:00 – 12:00: Open house
R1, Room 148/154 (with cookies and coffee)
- 11:00 – 12:00: Lab tours/demos
R1, Room 170/172

Xiaoning Qi is an assistant professor in NDSU Coatings and Polymeric Materials. As a principal investigator and materials scientist with more than 15 years of coating research and development experience, Xiaoning also has commercial experience with top companies in the coating industry. His current research interests include:



- Corrosion mitigation through anti-corrosive materials.
- Corrosion detection and material service life prediction.
- Application of 2D materials (graphene, MXene, etc.)

- Self-healing/healable coatings (micro-encapsulation and reversible chemistry).
- Coating for extreme conditions (high temperature, abrasion-resistant, and durable surfaces).

Summer Institute in Computational Social Science 2023

June 19 - 29

Applications open - April 7



June 19 - June 29, 2023, the [NDSU Department of Communication](#) and RCA will sponsor the Summer Institute in Computational Social Science, to be held at the main NDSU campus in Fargo. The Summer Institute is for both social scientists and data scientists (broadly conceived) and aims to bring together graduate students, postdoctoral researchers, and early-career faculty interested in computational social science. SICSS-NDSU 2023 will feature [guest speakers](#) who conduct computational social sciences research in communication, political science, and sociology, etc.

The instructional program will involve both in-person and self-paced online lectures, group problem sets, and participant-led research projects, and feature outside speakers who conduct computational social science research in a variety of

disciplines, such as political science, communication, and linguistics.

Topics covered include

- text as data
- website scraping
- digital field experiments
- machine learning
- ethics

There will be ample opportunities for participants to discuss their ideas and research with the organizers, other participants, and visiting speakers. Because we are committed to open and reproducible research, all materials created by faculty and students for the Summer Institute will be released open source.

Participation is open to graduate students, postdoctoral researchers, and early-career faculty. We welcome applicants from all backgrounds and fields of study, especially applicants from groups currently under-represented in computational social science. About 20 participants will be invited, and participants are expected to fully attend and participate in the entire 10-day program.

[Application materials](#) are due April 7

[Learn more >>](#)

Student Research Day - April 18

Everyone is encouraged to attend Student Research Day on April 18, 2023. Undergraduate and graduate students in all disciplines will share their research and creative work through both oral or poster presentations and prizes will be awarded for top presenters.



NDSU Student Research Day is a collaboration among NDSU EXPLORE, Gamma Sigma Delta, and the Graduate Student Council.

[Learn more >>](#)

Research Development and Grant Writing News

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

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



- **March 2023 Select List of Humanities, HSS, and Arts Opportunities & News**
- **AFRI Foundational Review Criteria & Narrative Format**
- **NSF Office Hours and the PROSPCT Tool**
- **Grants: Native American Graves Repatriation Act**
- **Budget of the US Government FY23/Agency Allocations**
- **Basic Research: The Trial-and-Error Trap**
- **How the Department of Energy Reviews Your Proposal**
- **How Your Research Fits in Your Discipline's State of the Art**

You can access [these and many more articles](#) on the RCA website (requires NDSU log-in).



Advanced Research Projects Agency for Health (ARPA-H) Webinar

The [Advanced Research Projects Agency for Health \(ARPA-H\)](#) supports the development of high-impact research carried out by a wide variety of groups across the country, including everyone from academia, private industry to the government in order to drive biomedical and health breakthroughs to deliver transformative, sustainable, and equitable health solutions for everyone. ARPA-H's mission focuses on leveraging research advances with a scope spanning the molecular to societal for real world impacts.

One year after its initial launch, ARPA-H released its first [Open Broad Agency Announcement \(Open BAA\)](#). Modeled after the Defense Advanced Research Projects Agency (DARPA), ARPA-H is tasked with advancing high-risk, high-reward

research with transformative potential to drive biomedical and health innovation.

On Wednesday April 26th from 12-1PM [Jack Goodman](#) (Senior Associate, Lewis-Burke Associates, LLC) will present a webinar on the ARPA-H program for the NDSU community. Topics to be covered include a background on ARPA-H's creation and mission, the topics and priorities in the BAA, and best practices for engaging/applying to ARPA-H.

If you'd like to learn more about the ARPA-H program and opportunities available to researchers, [please register](#).



AAAS is leaning into the organization's multidisciplinary strength to tackle timely and high impact issues across the science, technology, engineering, mathematics and medicine (STEMM) ecosystem. To do so, they are forming ad hoc Multidisciplinary Working Groups (MWGs) under the purview of the AAAS Council. The goal is to develop actionable steps to enact real and perceived changes in the STEMM enterprise.

These groups will draw on AAAS key strengths

- Their unique position at the intersection of science, policy, and publishing; the multidisciplinary composition of members
- Their longstanding connection with other scientific and professional societies
- Their deeply engaged volunteers who possess extensive expertise.

Each MWG will invite diverse perspectives across an array of STEMM disciplines, including academic and non-academic sectors, as well as early-career, mid-level and advanced-career individuals.

The first MWG will tackle ***Empowering Career Pathways in STEMM***. This group is now forming and will address major issues that have presented barriers to individuals entering STEMM careers and challenges to retaining talent. This group will complement the STEMM Opportunity Alliance, a cross-sector initiative AAAS is leading to drive equity and excellence in STEMM by 2050.

[Learn more](#)

Nominations will be accepted through April 5, 2023.

Funding Opportunities

- [Burroughs Wellcome Fund: Climate Change and Human Health Seed Grants](#)
- [DOC: Training for Improving Plastics Circularity](#)
- [DOE: Conversion Research and Development Funding](#)
- [DOE: Science Foundations for Energy Earthshots - LIMITED](#)
- [High Plains Intermountain Center for Agricultural Health and Safety: Emerging Issues](#)
- [Mathers Foundation: STEM Grant Program – LIMITED](#)
- [NASA Funding Opportunities](#)
- [NEA: Grants for Arts – LIMITED](#)
- [NEH: Humanities Collections and Reference Resources](#)

- [NIH: Community Level Interventions to Improve Minority Health and Reduce Health Disparities](#)
- [NIH: Director's Early Independence Awards– LIMITED](#)
- [NIH: Director's New Innovator Award Program](#)
- [NIH: Director's Transformative Research Award](#)
- [NIH: Discovery and Development of Natural Products for Cancer Interception and Prevention](#)
- [NIH: Research with Activities Related to Diversity](#)
- [NSF: A Science of Science Approach to Analyzing and Innovating the Biomedical Research Enterprise](#)
- [NSF: Blood Brain Barrier Response to Antibodies Targeting Beta-Amyloid](#)
- [NSF: Building Synthetic Microbial Communities for Biology, Mitigating Climate Change, Sustainability, and Biotechnology](#)
- [NSF: Building the Prototype Open Knowledge Network– LIMITED](#)
- [NSF: Centers for Research and Innovation in Science, the Environment and Society](#)
- [NSF: Directorate for Social, Behavioral, and Economic Sciences Opportunities](#)
- [NSF: Directorate for Social, Behavioral, and Economic Sciences Opportunities](#)
- [NSF: Plant Genome Research Program](#)
- [ONR: Young Investigator Program](#)

Upcoming Limited Submission Program Deadlines

[Limited submission grant programs](#) are those that indicate a limit on the number of proposals that may be submitted by an institution for a particular deadline. A selection process becomes necessary if more applicants express interest in applying than NDSU is allowed to submit to the grant program. Email notifications of interest to ndsu.researchdev@ndsu.edu by **close of business** on the notification deadline date.

If you identify a limited submission opportunity that is not on the list below, please notify ndsu.researchdev@ndsu.edu.

- [NSF: Expanding AI Innovation through Capacity Building and Partnerships](#)
Notification deadline: 04/05/2023

- [NSF: Building the Prototype Open Knowledge Network \(Proto-OKN\)](#)

Notification deadline: 04/11/2023

- [NEA: Grants for Arts](#)

Notification deadline: 04/26/2023

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

Notification deadline: 05/17/2023

- [NIH: Director's Early Independence Awards \(DP5 Clinical Trial Optional\)](#)

Notification deadline: 06/07/2023

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

- [NSF: Quantum Sensing Challenges for Transformational Advances in Quantum Systems \(QuSeC-TAQS\)](#)

Deadline: 04/03/2023

- [DOE: Industrial Efficiency and Decarbonization](#)
Concept Paper Deadline: 04/05/2023
- [DRL: Ensuring Freedom of Expression for Vulnerable and Marginalized Populations Responding to Anti-Rights Efforts and Targeted Attacks](#)

Deadline: 04/05/2023

- [NSF: Partnerships for Innovation](#)

Deadline: 05/02/2023

- [NSF: IUSE/ Professional Formation of Engineers: Revolutionizing Engineering Departments](#)

Deadline: 05/10/2023 (Two-Year track only)

- [NIH: Alzheimer's Disease Research Centers](#)

LOI deadline: 05/14/2023

- [NEH: Infrastructure and Capacity Building Challenge Grants](#)
Deadline: 05/17/2023
- [NIH: Collaborative Program Grant for Multidisciplinary Teams](#)

Deadline: 05/26/23 (LOI due 30 days prior to application due date)

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Burroughs Wellcome Fund: Climate Change and Human Health Seed Grants

The Burroughs Wellcome Fund (BWF) for [Climate Change and Human Health Seed Grants](#) aims to stimulate the growth of new connections between scholars working in largely disconnected fields who might together change the course of climate change's impact on human health. The BWF is particularly, but not exclusively, interested in activities that build connections between basic/early biomedical scientific approaches and ecological, environmental, geological, geographic, and planetary-scale thinking, as well as with population-focused fields including epidemiology and public health, demography, economics, and urban planning. Also of interest is work piloting new approaches or new interactions toward reducing the impact of health-centered activities, for example, developing more sustainable systems for health care, care delivery, and biomedical research systems.

Deadline: July 12, 2023

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DOC: Training for Improving Plastics Circularity (TIPC)

The Department of Commerce (DOC) Training for Improving Plastics Circularity ([TIPC](#)) Grant Program seeks to advance the development of coursework and hands-on training resources in polymer measurement methods, manufacturing, and systems thinking that will promote a skilled workforce to support expansion and increased scale of circular domestic plastics industries. The Program will support academic coursework development and implementation at the associates or bachelors' level or the development of a continuing education program for an existing workforce, related purchases and installation of equipment, and/or possible training experiences to help promote the development of a skilled and distributed workforce focused on the growing field of circular plastics.

Deadline: July 17, 2023

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DOE: Conversion Research and Development Funding

The 2023 Department of Energy (DOE) Conversion Research and Development Funding Opportunity [[DE-FOA-0002946](#)] supports a main theme core to the Bioenergy Technologies Office (BETO) Conversion Program's R&D mission: developing technologies to enable the conversion of waste and renewable resources to fuels and products with substantial greenhouse gas emissions reductions compared to the petroleum incumbent.

The topic areas seek to address the following needs:

- R&D on gasification technologies, with an emphasis on syngas contaminant removal approaches that enable effective upgrading of products derived from gasification of renewable resources to liquid transportation fuels.
- R&D on microbial conversion of renewable resources into chemical products, with an emphasis on processes with commercialization potential.

Topic 1: Overcoming Barriers to Syngas Conversion

Topic 2: Opportunities for Decarbonization of the Chemicals Industry Through Biocatalysts

Concept Paper Deadline: April 21, 2023; 4pm

DOE: Science Foundations for Energy Earthshots – 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.

One application slot is still open. Approval to submit an application for that remaining slot will be awarded to the first team to [Notify RCA](#). Pre-applications are due to DOE April 25, 4pm.

The Energy Earthshots Funding Opportunity Announcement (FOA) [[DE-FOA-00030003](#)] will accelerate breakthroughs towards more abundant, affordable, and reliable clean energy solutions. This FOA will support small teams to build the scientific foundations for the Energy Earthshot goals.

This FOA is a collaborative effort across three Office of Science (SC) research programs: Advanced Scientific Computing Research, Basic Energy Sciences, and Biological and Environmental Research. Multi-disciplinary applications are encouraged, addressing more than one SC research program. Additionally, the following common considerations apply to all Energy Earthshots: Applicants should consider how innovative high-performance and scientific-computing techniques can contribute to advancing the goals of the proposed research. Applicants should also leverage the applications and software technologies developed by DOE's Exascale Computing Project (ECP) to make use of computing at all scales. Applicants should also consider how to leverage data, software, models, and other information from recent and concurrent activities, including those funded by SC, other DOE departmental elements, and other agencies. Applicants are encouraged to consult the references posted on each Energy Earthshot's webpage for information on other potentially-leverageable resources.

LIMITED SUBMISSION: NDSU is allowed three pre-proposals to DOE for this program.



High Plains Intermountain Center for Agricultural Health and Safety: Emerging Issues

Emerging issues are defined as health risks that are new or have rapidly expanding impact in the immediate or near future. The [Emerging Issues Grant Program](#) is designed to provide a structure to identify issues of high priority for regional producers and the flexibility for HICAHS to respond rapidly.

Proposed seed funding projects should address at least one of the priorities listed below:

- Mental health
- Substance abuse/misuse
- Extreme weather/climate change, particularly heat stress/heat illness prevention, wildfire smoke, and post-burn ash inhalation
- Distracted machinery operation
- Labor issues, particularly labor shortages and high turnover
- Musculoskeletal disorders
- Robotics
- Silica exposures
- Hearing conservation
- Land-based fish production/aquaculture
- Issues related to youth on the farm
- Zoonotic diseases, including COVID-19
- Connections between animal, environmental, and human health

Deadline: Applications accepted on a rolling basis



Mathers Foundation: Grant Program (STEM) - LIMITED

Limited submission grant programs are those that indicate a limit on the number of proposals that may be submitted by an institution for a particular deadline. A selection process becomes necessary if more applicants express interest in applying than NDSU is allowed to submit to the grant program.

Notify RCA by May 17th at 5pm, if you are interested in submitting to this program.

The mission of The G. Harold and Leila Y. Mathers Foundation Grant Program is to advance knowledge in the life sciences by sponsoring scientific research that will benefit mankind. Basic scientific research, with potential translational application, is central to this goal, and fundamental to their operating principles. Areas of interest include but are not limited to immunology, microbiome, genomics, structural biology, cellular physiology, and neuroscience.

LIMITED SUBMISSION: Universities/Institutions are limited to four applications per cycle.

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NASA Funding Opportunities

The NASA Research Opportunities in Space and Earth Sciences (ROSES) program has a number of open funding opportunities with upcoming deadlines, including:

- Planetary Protection Research
Notice Of Intent (NOI) Deadline: June 21, 2023
- Solar Irradiance Science Team
NOI Deadline: June 16, 2023
- Soil Moisture Active-Passive Mission Science Team
NOI Deadline: June 29, 2023
- Solar Orbiter Guest Investigators
NOI Deadline: August 1, 2023

- [Cryospheric Science](#)

NOI Deadline: September 12, 2023

For a full list of opportunities from NASA – ROSES please visit:

<https://science.nasa.gov/researchers/sara/grant-solicitations>

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NEA: Grants for Arts - LIMITED

[Limited submission grant programs](#) are those that indicate a limit on the number of proposals that may be submitted by an institution for a particular deadline. A selection process becomes necessary if more applicants express interest in applying than NDSU is allowed to submit to the grant program.

[Notify RCA](#) by April 26th at 5pm, if you are interested in submitting to this program.

[Grants for Arts Projects](#) is the National Endowment for the Art's (NEA) largest grants program for organizations, providing comprehensive and expansive funding opportunities for communities. Through project-based funding, the program supports opportunities for public engagement with the arts and arts education, for the integration of the arts with strategies promoting the health and well-being of people and communities, and for the improvement of overall capacity and capabilities within the arts sector.

The NEA encourages projects that address any of the following:

- Elevate artists as integral and essential to a healthy and vibrant society;
- Celebrate the nation's creativity and/or cultural heritage
- Facilitate cross-sector collaborations that center the arts at the intersection of other disciplines, sectors and industries;
- Contribute to healthy and thriving local, regional, state-wide, and national arts ecosystems and arts infrastructures;

- Invest in organizational capacity-building and leadership development for arts organizations, arts workers and artists;
- Build arts organizations' capacity to serve a broad public through digital or emergent technology and/or support tech-centered creative practices across all artistic disciplines and forms; and
- Originate from or in collaboration with White House Executive Orders (see FO for additional details).

LIMITED SUBMISSION: NDSU is allowed one application to this program per calendar year.



NEH: Humanities Collections and Reference Resources

[Humanities Collections and Reference Resources](#) advances scholarship, education, and public programming in the humanities by helping libraries, archives, museums, and historical organizations across the country steward important collections of books and manuscripts, photographs, sound recordings and moving images, archaeological and ethnographic artifacts, art and material culture, and digital objects. The program strengthens efforts to extend the reach of such materials and make their intellectual content widely accessible. Awards also support the creation of reference resources that facilitate the use of cultural materials, from works that provide basic information quickly to tools that synthesize and codify knowledge of a subject for in-depth investigation.

Projects may address the holdings or activities of a single institution or may involve partnerships between organizations. Collaboration between humanities experts and information professionals is essential to broaden the scope of, and audiences for, proposed collections or reference resources. You should design a project that facilitates sharing, exchange, and the interoperability of humanities information and products, as well as ensures their long-term availability. Projects should expand participation in cultural heritage and promote engagement with primary sources.

Deadline: July 18, 2023

NIH: Community Level Interventions to Improve Minority Health and Reduce Health Disparities (R01 - Clinical Trial Optional)

This initiative [[RFA-MD-23-004](#)] will support research projects to develop and test prospective community-level interventions to improve minority health and decrease health disparities. Community-level intervention projects are expected to have the following features:

- Are led by or conducted in full partnership with appropriate community partners. Multi-sectoral collaborations involving partnerships with multiple types of organizations in the public and private sector are strongly encouraged.
- Are focused on improving health outcomes or reducing health disparities in one or more NIH-designated health disparity populations in the US.
- Are focused on the entire population in communities or a specific population within communities.
- Are guided by a conceptual model identifying hypothesized pathways between the community-level intervention, community-level determinants, and health outcomes.
- Collect or obtain data beyond individual self-report to determine how the intervention is impacting community-level determinants of health.
- Are supported by relevant preliminary data. It is not required for the community-level intervention to have been pilot tested in multiple communities.
- Prospectively test the impact of interventions on self-reported or measured health outcomes. Retrospective analysis of existing or past community-level interventions or initiatives are not responsive to this initiative.
- Include health outcomes at the individual, interpersonal/organizational, or community level, or a combination.
- Use appropriate measures and analytic methods appropriate for examining community-level mechanisms of action and health outcomes.
- Test interventions that have the potential to be sustainable in the community after project funding is over.

Deadline: July 7, 2023

(Letter of Intent due 30 days prior to application)

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NIH: Director's Early Independence Awards (DP5 Clinical Trial Optional) – LIMITED

Limited submission grant programs are those that indicate a limit on the number of proposals that may be submitted by an institution for a particular deadline. A selection process becomes necessary if more applicants express interest in applying than NDSU is allowed to submit to the grant program.

Notify RCA by June 7, 2023, 5pm, if you are interested in submitting to this program.

The NIH Director's Early Independence Award [[RFA-RM-23-007](#)] supports rigorous and promising junior investigators who wish to pursue independent research soon after completion of their terminal doctoral degree or post-graduate clinical training, thereby forgoing the traditional post-doctoral training period and accelerating their entry into an independent research career. For the program to support the best possible researchers and research, applications are sought which reflect the full diversity of the research workforce. Individuals from diverse backgrounds, including those from underrepresented groups and from the full spectrum of eligible institutions in all geographic locations, are strongly encouraged to apply to this Funding Opportunity Announcement. In addition, applications in all topics relevant to the broad mission of NIH are welcome, including, but not limited to, topics in the behavioral, social, biomedical, applied, and formal sciences and topics that may involve basic, translational, or clinical research.

LIMITED SUBMISSION: Up to two applications per institution are allowed.

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NIH: Director's New Innovator Award Program (DP2 Clinical Trial Optional)

The NIH Director's New Innovator Award Program [[RFA-RM-23-005](#)] supports early stage investigators of exceptional creativity who propose highly innovative research projects with the potential to produce a major impact on broad, important areas relevant to the mission of NIH. For the program to support the best possible researchers and research, applications are sought which reflect the full diversity of the research workforce. Individuals from diverse backgrounds, including those from underrepresented groups and from the full spectrum of eligible institutions in all geographic locations are strongly encouraged to apply to this Funding Opportunity Announcement. In addition, applications in all topics relevant to the broad mission of NIH are welcome, including, but not limited to, topics in the behavioral, social, biomedical, applied, and formal sciences and topics that may involve basic, translational, or clinical research. The NIH Director's New Innovator Award Program complements other ongoing efforts by NIH and its Institutes and Centers to fund early stage investigators.

Deadline: August 18, 2023

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NIH: Director's Transformative Research Awards (R01 Clinical Trial Optional)

The NIH Director's Transformative Research Award Program [[RFA-RM-23-006](#)] supports individual scientists or groups of scientists proposing groundbreaking, exceptionally innovative, original, and/or unconventional research with the potential to create new scientific paradigms, establish entirely new and improved clinical approaches, or develop transformative technologies. Individuals from diverse backgrounds, including those from underrepresented groups are strongly encouraged to apply to this Funding Opportunity Announcement. In addition, applications are welcome from the full spectrum of eligible institutions in all geographic locations and in all topic areas relevant to the broad mission of NIH, including, but not limited to, behavioral, social, biomedical, applied, and formal sciences and topics that may involve basic, translational, or clinical research. No preliminary data are required. Projects must clearly demonstrate, based on the strength of the logic, a compelling potential to produce a major impact in a broad area of relevance

to the NIH.

Deadline: September 1, 2023

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NIH: Discovery and Development of Natural Products for Cancer Interception and Prevention (UG3/UH3 Clinical Trial Not Allowed)

Through this Notice of Funding Opportunity [[RFA-CA-23-028](#)], the National Cancer Institute (NCI) intends to support the discovery and development of novel natural products that are safe, non-toxic, and efficacious for cancer interception and prevention. The UG3 phase will provide up to three years of support for milestone-driven initial target selection, verification of the target in clinical samples and preclinical in vivo studies, assay development, and/or assay validation for target activity, as well as on-target toxicity screening, and pilot screening of natural agents. If UG3 milestones are met, support may be provided for a full-scale screening, identification of active natural compounds, full-scale evaluation of screened individual agents, assessment of the natural product's effect in vitro and in vivo, and determining the optimal dose for subsequent studies and safety testing in the UH3 phase.

Deadline: June 29, 2023

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NIH: Research with Activities Related to Diversity (ReWARD) (R01 Clinical Trial Optional)

The National Institutes of Health (NIH) Research With Activities Related to Diversity (ReWARD) [[PAR-23-122](#)] Program's overarching goal is to enhance the breadth and geographical location of research and research-related activities supported by NIH. The ReWARD program provides support for the health-related research of scientists who are making a significant contribution to Diversity, Equity, Inclusion, and Accessibility (DEIA) and who have no current NIH research project grant funding. The ReWARD program provides funding for both the scientific research and the DEIA activities of investigators.

The grant will support scientific research in areas related to the programmatic interests of one or more of the participating NIH Institutes and Centers (ICs) and ongoing DEIA activities focused on enhancing diversity in the biomedical research enterprise within the United States and territories.

Upcoming Deadlines: June 5, October 5



NSF: A Science of Science Approach to Analyzing and Innovating the Biomedical Research Enterprise (SoS:Bio)

Science of Science Approach to Analyzing and Innovating the Biomedical Research Enterprise (SoS:Bio) [[NSF 23-569](#)] is a joint program between the National Institute of General Medical Sciences (NIGMS) of the National Institutes of Health (NIH) and the Science of Science: Discovery, Communication, and Impact Program (SoS:DCI) of the National Science Foundation (NSF). SoS:Bio supports research that advances the scientific basis of science and innovation policy, with a focus on the biomedical sciences. SoS:Bio will fund the development of models, analytical tools, data and metrics that can inform science policy and the development of the scientific enterprise. SoS:Bio welcomes individual and collaborative research projects and places a high priority on interdisciplinary research and on broadening participation.

Deadline: September 11, 2023



NSF: Blood Brain Barrier Response to Antibodies Targeting Beta-Amyloid (R01 - Clinical Trial Not Allowed)

This funding opportunity announcement [[PAR-23-140](#)] solicits applications designed to increase understanding of cellular and molecular mechanisms that can be targeted to protect the blood-brain barrier (BBB), and thus brain blood vessels, during therapeutic interventions that target beta-amyloid. This includes applications that promote the discovery of cellular and molecular mechanisms that underlie brain blood vessel responses to passive anti-beta-amyloid immunotherapy that result in amyloid-related

imaging abnormalities and other potentially adverse cerebrovascular responses.

Deadline: June 2, 2023



NSF: Building Synthetic Microbial Communities for Biology, Mitigating Climate Change, Sustainability, and Biotechnology (Synthetic Communities)

In recent years, researchers have turned to synthetic biology and bioengineering to assemble microbial communities that have specific capabilities and/or to provide microbes with new capabilities. Given the relative ease at which microbes are grown and genetically modified, and the recent development of numerous genetic tools, researchers now have the ability to synthetically modify microbes and to artificially assemble microbial communities. This has allowed researchers to approach fundamental biological questions in a new way and to address urgent problems such as the need for novel therapeutics to treat emerging diseases, improving nutrient utilization and disease resistance in crop plants, remediation of plastics from the environment, and sequestration of carbon dioxide and removal of methane from the environment to mitigate climate change and its impacts.

For the purposes of this solicitation [[NSF 22-607](#)], synthetic microbial communities are defined as mixtures of microbes or strains that are not naturally occurring and have novel characteristics or have been rationally designed genetically and/or metabolically to have a particular capability. Organisms across multiple phyla and kingdoms, including bacteria, archaea, and eukaryotes such as fungi and microalgae, can be used to generate the synthetic microbial communities.

This solicitation seeks proposals that use synthetic microbial communities to address at least one of three thematic areas:

1. Defining the mechanisms or rules that drive the formation, maintenance or evolution of synthetic microbial communities;

2. Using synthetic microbial communities to address fundamental biological questions, including questions in molecular biology, cellular/organismal biology, ecology and evolution;
3. Building synthetic communities with biotechnology or bio-economy applications, including but not limited to the production of novel bio-renewable chemicals, biodegradation of harmful or recalcitrant environmental chemicals, enabling a circular bio-economy, fostering sustainable agriculture and mitigating the impacts of climate change.

Deadline: August 1, 2024

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NSF: Building the Prototype Open Knowledge Network (Proto-OKN) – LIMITED

Limited submission grant programs are those that indicate a limit on the number of proposals that may be submitted by an institution for a particular deadline. A selection process becomes necessary if more applicants express interest in applying than NDSU is allowed to submit to the grant program.

Notify RCA by April 11, 2023, 5pm, if you are interested in submitting to this program.

The Proto-OKN program [[NSF 23-571](#)] supports the creation of a prototype Open Knowledge Network — an interconnected network of knowledge graphs supporting a very broad range of application domains. Open access to shared information is essential for the development and evolution of artificial intelligence (AI) and AI-powered solutions needed to address the complex challenges facing the nation and the world. Projects funded by this program will provide an essential public-data infrastructure to power the next information revolution similar to the Internet — transforming our ability to unlock actionable insights from data by semantically linking information about related entities.

This Proto-OKN solicitation will support research projects in the following

categories:

Theme 1 – Proto-OK Use Cases: Projects in this category will develop a knowledge graph or “node” of the Proto-OKN that will address specific use-case challenges using well-identified data sets and a user-centric design process to help ensure usability and sustainability of the effort.

Theme 2 – Proto-OKN Fabric: Projects in this category will develop and deploy the necessary technologies to provide an “interconnecting fabric” for the Proto-OKN, to help link knowledge graphs developed across Theme 1 projects.

Theme 3 – Proto-OKN Education and Public Engagement: A single award will be made in this category for creating educational materials and tools targeted to the range of constituents who are expected to be engaged with the Proto-OKN.

LIMITED SUBMISSION: NDSU may serve as the lead organization on one proposal to this solicitation.



NSF: Centers for Research and Innovation in Science, the Environment and Society (CRISES)

The National Science Foundation (NSF) seeks to build research capacity and infrastructure to address complex and compounding national and global crises whose solutions require a human-centered approach. To help generate effective and long-lasting solutions that benefit the entire U.S. public, NSF is providing this funding opportunity to inform possible future Centers for Research and Innovation in Science, the Environment and Society (CRISES) [[PD 23-265Y](#)].

The envisioned centers will catalyze new research and research-based innovations to address seemingly intractable problems that confront our society. They will develop evidence-based solutions that address fundamental quality-of-life issues, such as those involving the environment, extreme weather and sustainability; workforce and the economy; equity and access to opportunities; and well-being.

CRISES supports planning, conference and EAGER proposals to catalyze ideas that will potentially inform or serve as the basis for a larger, center-scale program.

This opportunity supports researchers in the social, behavioral and economic sciences who use empirical methods to grapple with crises that impact individuals, families, organizations, regions, nations or our entire planet. The Centers for Research in Science, the Environment and Society initiative invites proposals to take the first steps toward developing large-scale interdisciplinary research activities that will address today's crises and ultimately enhance people's quality of life.

Deadline: June 26, 2023



NSF: Directorate for Social, Behavioral, and Economic Sciences Opportunities

The National Science Foundation (NSF) Social, Behavioral, and Economic Sciences (SBE) Directorate has a number of open funding opportunities with upcoming deadlines, including:

- **Developmental Sciences** [[PD 08-1698](#)]
Deadline: July 31, 2023
- **Social Psychology** [[PD 98-1332](#)]
Deadline: July 17, 2023
- **Linguistics** [[PD 98-1311](#)]
Deadline: July 17, 2023
- **Law & Science** [[PD 21-128Y](#)]
Deadline: August 1, 2023
- **Accountable Institutions and Behavior** [[PD 19-120Y](#)]
Deadline: August 15, 2023
- **Cultural Anthropology Program** [[NSF 18-560](#)]
Deadline: August 15, 2023
- **Archaeology Program Senior Research Awards (Arch-SR)** [[NSF 23-566](#)]
Deadline: July 3, 2023; December 1, 2023

- **Sociology** [[PD 98-1331](#)]
Deadline: ANYTIME
- **Decision, Risk, and Management Sciences** [[PD 98-1321](#)]
Deadline: August 18, 2023
- **Economics** [[PD 98-1320](#)]
Deadline: August 18, 2023
- **Ethical and Responsible Research** [[NSF 22-526](#)]
Deadline: January 22, 2024
- **Methodology, Measurement, and Statistics** [[NSF 19-575](#)]
Deadline: August 31, 2023
- **Developmental Sciences** [[PD 08-1698](#)]
Deadline: July 31, 2023
- **Perception, Action & Cognition** [[PD 09-7252](#)]
Deadline: May 15 - June 15; July 15 - August 1, 2023
- **Science of Organizations** [[PD 11-8031](#)]
Deadline: September 5, 2023
- **Science of Science: Discovery, Communication, and Impact** [[PD 19-125Y](#)]
Deadline: September 11, 2023

For a full list of funding opportunities from NSF SBE please click [here](#).

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NSF: Plant Genome Research Program (PGRP)

The Plant Genome Research Program (PGRP) [[NSF 23-559](#)] supports genome-scale research that addresses challenging questions of biological, societal and economic importance. PGRP encourages the development of innovative tools, technologies and resources that empower a broad plant research community to answer scientific questions on a genome-wide scale. Emphasis is placed on the scale and depth of the question being addressed and the creativity of the approach. Data produced by plant genomics should be usable, accessible, integrated across scales and of high impact across biology. Training, broadening participation, and career development are essential to scientific progress and should be integrated in all PGRP-funded projects.

Two funding tracks are currently available:

RESEARCH-PGR TRACK: Genome-scale plant research to address fundamental questions

in biology, including processes of economic and/or societal importance.

TRTech-PGR TRACK: Tools, resources and technology breakthroughs that further enable functional plant genomics.

Deadline: Proposals accepted ANYTIME



ONR: Young Investigator Program

The Office of Naval Research's [Young Investigator Program](#) seeks to identify and support academic scientists and engineers who are in their first or second full-time tenure-track or tenure-track-equivalent academic appointment, who have received their PhD or equivalent degree on or after 01 January 2016, and who show exceptional promise for doing creative research. The objectives of this program are to attract outstanding faculty members of U.S. Institutions of Higher Education to the Department of the Navy's Science and Technology (S&T) research program, to support their research, and to encourage their teaching and research careers.

Proposals addressing research areas (as described in the ONR Science and Technology Department section of ONR's website at <https://www.nre.navy.mil/>) which are of interest to ONR Program Officers will be considered.

Deadline: July 7, 2023



Looking for more funding opportunities?



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

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

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

[Contact Us](#)



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