

NDSU OFFICE OF
RESEARCH AND CREATIVE ACTIVITY

RCA UPDATE

November 25, 2019

RCA Lightning Talks



Nearly 50 NDSU researchers from 16 different departments recently gathered together at the inaugural RCA Lightning Talk. They listened to short presentations and discussed ideas for developing planning grants in the area of “AI-Driven Innovation in Agriculture and the Food System.” This research opportunity is part of a group of topics in the National Science Foundation’s

National Artificial Intelligence (AI) Research Institutes solicitation created jointly with the USDA, Department of Homeland Security, USDOT, and U.S. Department of Veterans Affairs.

Rajesh Kavasseri, NDSU electrical and computer engineering professor and RCA faculty fellow, created the event in conjunction with the RCA Research Development team and served as host. Each presenter was limited to two PowerPoint slides and three minutes of presentation time.

The AI Research Institutes program aims to serve as national nexus points for collaborative efforts spanning institutions of higher education, federal agencies, industry, and nonprofits/foundations. The work done at this first Lightning Talk will go towards the creation of planning proposals, which are due at the end of January.



Animal model research support services available at the NDSU Veterinary Diagnostic Laboratory

The [NDSU Veterinary Diagnostic Laboratory](#) (VDL) offers a variety of professional pathology services, by board certified veterinary pathologists, including help with animal models/ experimental design, necropsy, gross and histopathologic interpretation of animal tissues, microphotography and manuscript preparation. An array of other services such as histology, immunohistochemistry, hematology/clinical pathology, microbiology and toxicology are also available at the laboratory. Investigators interested in using VDL professional services should contact the laboratory for a free project consultation. Ideally consultation should occur prior to grant

submission but ongoing projects are also welcome. For more information on services and fees contact Brett Webb, DVM, PhD, DACVP (brett.webb@ndsu.edu, 1-5271) or Heidi Pecoraro, DVM, PhD, DACVP (Heidi.pecoraro@ndsu.edu, 1-7521).



NDSU Core Biology Facility End of the Year Promotion

The [NDSU Core Biology Facility \(CBF\)](#) assists researchers by providing equipment and resources that might not otherwise be accessible to the standard laboratory. CBF is equipped with BD Accuri C6 flow cytometers, BD FACSJazz cell sorter, Agilent 2100 Bioanalyzer, BioTek Synergy H1 microplate reader, iBright FL 1500 imaging system, Thermo Nanodrop 2000c, and more. In addition, CBF contains the equipment and resources to perform tissue/cell culture. CBF is a reasonable fee structure-based facility with the goal of assisting and promoting research. If interested in touring the facility and/or discussing how the facility may assist your research, please contact the CBF Manager, Dr. Amber Chevalier Plambeck (amber.chevalier@ndsu.edu, 701-231-5334).

From now until the end of the calendar year, the CBF is offering a free training session per laboratory on the Accuri C6 Flow Cytometers. This free training time will benefit laboratories that are interested in using the instruments or need a refresher on proper maintenance. Contact Dr. Chevalier Plambeck (amber.chevalier@ndsu.edu, 701-231-5334) if you are interested in this promotion.

CONTENTS

FUNDING OPPORTUNITIES

- [American College of Sports Medicine: Research Projects](#)
- [DOE: Early Career Research Program](#)
- [DOE: Energy Frontier Research Centers](#)
- [Human Animal Bond Research Institute](#)
- [National Fish and Wildlife Foundation: Urban Waters Restoration](#)
- [NIH: NCI Small Grants Program for Cancer Research](#)
- [NSF: EPSCoR Research Infrastructure Improvement Track-4 - Research Fellows](#)
- [NSF: Future of Work at the Human-Technology Frontier](#)

EVENTS

- [2020 NSF ENG CAREER Proposal Workshop](#)
- [Proposal Development Program](#)
- [Showcase of Student Writing](#)

Looking for
Collaborators?
Visit the
[NDSU Scholars
Database](#)

In Search of
Equipment?
Check the
[NDSU Equipment
Database](#)



Need to update your profile?
Click here to learn how!

American College of Sports Medicine: Research Projects

The [American College of Sports Medicine](#) (ACSM) works to advance research with educational and practical applications in the fields of exercise science and sports medicine.

To that end, the organization is [inviting applications for grants](#) of up to \$10,000 in support of hypothesis-driven basic and applied research. Grants are intended to provide seed money support that leads to additional funding from other sources. Awards are primarily targeted for new or junior investigators within seven years of attaining a terminal degree (e.g., PhD, EdD).

To be eligible, applicants must be a member of ACSM at the time of submission.

Full Application deadline: January 17, 2020

[Track this program >>](#)

[^^](#)

DOE: Early Career Research Program

The Department of Energy's (DOE) Office of Science (SC) hereby invites grant applications for support under the [Early Career Research Program](#) in the following program areas: Advanced Scientific Computing Research (ASCR); Biological and Environmental Research (BER); Basic Energy Sciences (BES), Fusion Energy

Sciences (FES); High Energy Physics (HEP), and Nuclear Physics (NP). The purpose of this program is to support the development of individual research programs of outstanding scientists early in their careers and to stimulate research careers in the areas supported by SC.

SC's mission is to deliver the scientific discoveries and major scientific tools to transform our understanding of nature and advance the energy, economic, and national security of the United States. SC is the Nation's largest Federal sponsor of basic research in the physical sciences and the lead Federal agency supporting fundamental scientific research for our Nation's energy future.

The Principal Investigator must be an **untenured** Assistant Professor on the tenure track or an **untenured** Associate Professor on the tenure track at a U.S. academic institution as of the deadline for the application.

Pre-application deadline: January 7, 2020, 4pm Central Time

[Track this program >>](#)



DOE: Energy Frontier Research Centers - Limited Submission Program

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.

DOE EFRC : Notify RCA by 12/02/2019, 5:00 p.m. if you are interested in applying.

The Department of Energy's (DOE) Office of Basic Energy Sciences (BES) announces the call for Energy Frontier Research Centers (EFRC) proposals and encourages both new and renewal applications. Applications will be required to

address priority research directions and opportunities identified in recent BES workshop and roundtable reports, the scientific grand challenges identified in the report *Directing Matter and Energy: Five Challenges for Science and the Imagination*, **and** the opportunities described in the report *Challenges at the Frontiers of Matter and Energy: Transformative Opportunities for Discovery Science*.

BES is soliciting proposals in four (4) topical areas:

- 1) Environmental Management (new and renewal proposals);
- 2) Quantum Information Science (new proposals only);
- 3) Microelectronics (new proposals only); and
- 4) Polymer Upcycling (new proposals only).

Cost sharing is not required.

^^
—

Human Animal Bond Research Institute

The vision of the [Human Animal Bond Research Institute](#) (HABRI) is for the human-animal bond to be universally embraced as an essential element of human wellness. To that end, HABRI works to establish the vital role of companion animals in the health and well-being of individuals, families, and communities.

To advance this mission, the organization has issued a [Request for Proposals \(RFP\)](#) for research on the health outcomes of pet ownership and/or animal-assisted activity or therapy, both for people and the animals involved. Proposals should have a strong theoretical framework and focus on innovative approaches to studying the health effects of companion animals on humans within the following broad categories: child health and development; healthy aging; and mental and physical health and wellness. On average, HABRI awards five grants of up to \$45,000 each over twenty months.

In an effort to help address larger societal challenges, proposals that have potential to impact current public health crises or issues at the forefront of public

concern are welcomed. Topics include but are not limited to social isolation and loneliness, suicide prevention, addiction, trauma and/or post-traumatic stress, obesity, and heart health.

While HABRI is interested in studies that focus on the impacts of interactions with dogs, in the interest of further contributing to the scientific field of human-animal interaction, HABRI welcomes studies that focus on interactions with other pet species, which may include but are not limited to cats, small animals (rabbits, guinea pigs, birds, and fish), and horses.

Application deadline: February 13, 2020

[Track this program >>](#)



National Fish and Wildlife Foundation: Urban Waters Restoration

The [National Fish and Wildlife Foundation](#) and the [Wildlife Habitat Council](#), in cooperation with the U.S. Environmental Protection Agency, the U.S. Forest Service, the U.S. Fish and Wildlife Service, FedEx, Southern Company, and BNSF Railway are pleased to solicit applications for the 2020 Five Star and Urban Waters Restoration program.

The program seeks to help communities develop the capacity to sustain local natural resources for future generations, with a focus on improving water quality, watersheds, and the species and habitats they support.

Projects eligible for grants include a variety of ecological improvements along with targeted community outreach, education, and stewardship. Ecological improvements may include one or more of the following: wetland, riparian, forest and coastal habitat restoration; wildlife conservation, community tree canopy enhancement, water quality monitoring and green infrastructure best management practices for managing runoff. Projects should increase access to the benefits of

nature, reduce the impact of environmental hazards, and engage local communities, particularly underserved communities, in project planning, outreach and implementation.

Eligible applicants include nonprofit 501(c) organizations, state government agencies, local governments, municipal governments, Indian tribes, and educational institutions. Unincorporated individuals, businesses, international organizations, and U.S. federal government agencies are ineligible for this program.

The program expects that applicants will represent a mixture of urban and rural communities. NFWF may use a mix of public and private funding sources to support any grant made through the program.

Approximately \$1.5 million will be awarded to forty to fifty organizations in 2020, with awards ranging from \$20,000 to \$50,000. Project duration should be twelve to eighteen months, with a start date in late summer/early fall 2020. Applications requesting more than \$30,000 should propose projects longer than twelve months.

For additional information on program priorities, project metrics, and eligibility criteria, see the [National Fish and Wildlife Foundation website](#).

Application deadline: January 30, 2020

[Track this program >>](#)



NIH: NCI Small Grants Program for Cancer Research

This Funding Opportunity Announcement ([FOA / PAR-20-052](#)) supports projects in any area of cancer research using the NIH R03 small grant mechanism. The NIH R03 small grant mechanism supports discrete, well-defined projects that realistically can be completed in 2 years and that require limited levels of funding.

Examples of the types of projects that the R03 grant mechanism include, but are not limited to, the following:

- pilot or feasibility studies;
- secondary analysis of existing data;
- small, self-contained research projects;
- development of research methodology; and
- development of new research technology.

All areas of cancer research relevant to the mission of the National Cancer Institute (NCI) are appropriate for projects submitted in response to this FOA [for a list of extramural research funding programs at the NCI, go to <http://www.cancer.gov/researchandfunding/extramural>].

Projects submitted to this FOA may involve basic, translational, clinical, and/or population research related to cancer. *Examples of relevant areas include but are not limited to studies of:*

- cancer biology;
- cancer control;
- cancer diagnosis;
- cancer disparities;
- cancer prevention; and
- cancer treatment.

Application deadlines in 2020: February 24; June 24; October 20

[Track this program >>](#)

NSF: EPSCoR Research Infrastructure Improvement Track-4 - EPSCoR Research Fellows (RII Track-4) - Limited Submission Program

[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.

NSF EPSCoR Track 4 : [Notify RCA](#) by 12/13/2019, 5:00 p.m. if you intend to apply.

The [RII Track-4 Fellows program](#) [NSF 18-526] provides an opportunity for *non-tenured* faculty to spend extended periods of time at the nation's premier research facilities. The fellowship period may be used to initiate new collaborative relationships, to expand existing partnerships in ambitious new directions, or to make use of unique equipment not available at the PI's home institution. Successful fellowships will positively impact and potentially transform the recipient's research career trajectory. Any research topic eligible for consideration under NSF's policies will be considered for RII Track-4 support. The fellowship host site may be any academic, governmental, commercial, or non-profit research facility within the United States or its territories.

NDSU is allowed to submit three RII Track-4 proposals to NSF in response to this solicitation, so the [Limited Submission process](#) will apply.

Eligible PIs employed by degree-granting institutions of higher education must hold a ***non-tenured faculty appointment***. This may be in the form of a pre-tenure tenure-track position or a long-term non-tenure-track position. RII Track-4 awards will be made as standard grants. The award amount will not exceed \$300,000 and the project duration will not exceed 24 months. **Only single-PI proposals will be considered. No co-PIs should be included on the proposal.**

NSF: Future of Work at the Human-Technology Frontier: Core Research (FW-HTF)

The Future of Work at the Human-Technology Frontier ([FW-HTF](#)), one of [NSF's Big Ideas](#), is one mechanism by which the National Science Foundation (NSF) is responding to the challenges and opportunities for the future of jobs and work. The overarching vision is to support convergent research to understand and develop the human-technology partnership, design new technologies to augment human performance, illuminate the emerging socio-technological landscape, understand the risks and benefits of new technologies, understand and influence the impact of artificial intelligence on workers and work, and foster lifelong and pervasive learning.

The specific objectives of the Future of Work at the Human-Technology Frontier program are to

1. facilitate convergent research that employs the joint perspectives, methods, and knowledge of computer science, design, engineering, learning sciences, research on education and workforce training, and social, behavioral, and economic sciences;
2. encourage the development of a research community dedicated to designing intelligent technologies and work organization and modes inspired by their positive impact on individual workers, the work at hand, the way people learn and adapt to technological change, creative and supportive workplaces (including remote locations, homes, classrooms, or virtual spaces), and benefits for social, economic, educational, and environmental systems at different scales;
3. promote deeper basic understanding of the interdependent human-technology partnership to advance societal needs by advancing design of intelligent work technologies that operate in harmony with human workers, including consideration of how adults learn the new skills needed to interact with these technologies in the workplace, and by enabling broad workforce participation, including improving accessibility for those challenged by physical or cognitive impairment; and
4. understand, anticipate, and explore ways of mitigating potential risks arising from future work at the human-technology frontier. Ultimately, this research will

advance understanding of how technology and people interact, distribute tasks, cooperate, and complement each other in different specific work contexts of significant societal importance.

It will advance the knowledge base related to worker education and training and formal and informal learning to enable all potential workers to adapt to changing work environments. It will advance our understanding of the links between the future of work at the human-technology frontier and the surrounding society, including the intended potential of new technologies and the unintended consequences for workers and the well-being of society.

A proposal for a research grant in this program must focus on advancing fundamental understanding of future work, and potential improvements to work, workplaces, workforce preparation, or work outcomes for workers and society. It must be convergent research that addresses the human and societal dimensions as well as the technological innovation and their potential impact on future work. In doing so, the research should make significant contributions to both intellectual merit and broader impact. Achieving this goal requires integration and convergence of disciplines across behavioral science, computer science, economic science, engineering, learning sciences, research on education and workforce training, and the social sciences. A convergent perspective is essential to understand and shape long-term social and economic drivers, so that advanced intelligent technology will strengthen the social fabric. A convergent perspective also provides insights into education and re-skilling, so that the benefits of emerging technology can be conferred upon both current and future workers.

Proposals in which one discipline or set of skills is mainly in service of the others are not appropriate. Ideally, the research will be interdependent, integrated, and will contribute novel understanding and impact on the Future of Work at the Human-Technology Frontier. Such integration and impact may require extra effort in leadership, regular communication, and cross-training.

Full Application deadline: March 9, 2020

[Track this program >>](#)

2020 NSF ENG CAREER Proposal Workshop

The National Science Foundation (NSF) 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 and to lead advances in the mission of their department or organization. An [NSF CAREER Proposal Workshop](#) focused on engineering will be held March 31 – April 2, 2020 in Arlington, Virginia. The objective of the 2020 NSF ENG Directorate Workshop is to introduce junior faculty who are interested in submitting NSF CAREER proposals to the Directorate for Engineering. The workshop aims to provide individuals with proposal development insights and a forum in which they can interact with NSF program directors and recent NSF CAREER awardees.

Workshop participation will be by invitation, based on applications, and limited to 300 participants who will be selected from the pool of applicants based on:

- applicability of the proposed research to the Directorate for Engineering,
- timeliness and completeness of the application, and
- preference given to those who have not previously attended an NSF Engineering CAREER workshop.

Please review the [application page](#) for further information.

Application Deadline: January 6, 2020

Proposal Development Program

The next session of the RCA Proposal Development Program will focus on **Writing a Good First Page and Project Summary**. It will take place on **Tuesday, December 3** from **12:30-1:30pm** in the **Memorial Union Hidatsa Room**. [Register for this session >>](#)

The purpose of the Proposal Development Program is to provide a professional

development opportunity for those new to proposal writing or those seeking a refresher to hone proposal writing skills and increase knowledge about funding agency opportunities. [Learn more and see upcoming sessions >>](#)



Showcase of Student Writing

The College of Arts, Humanities and Social Sciences has [invited](#) campus to attend the Showcase of Student Writing. The event is scheduled for Monday, December 5, from 10:00am-12:00pm in the Memorial Union Great Plains Room. Students across disciplines display and discuss their academic, creative, and professional writing.



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.

North Dakota State University does not discriminate on the basis of age, color, disability, gender expression/identity, genetic information, marital status, national origin, public assistance status, race, religion, sex, sexual orientation, or status as a U.S. veteran. Direct inquiries to: Equal Opportunity Specialist, Old Main 201, 701-231-7708 or Title IX/ADA Coordinator, Old Main 102, 701-231-6409.