

Crisp air and the changing seasons

The four seasons allow us to psychologically shift our goals and attention. The changing weather lets us see a beginning and an end and measure progress in steps and milestones. As the fall semester gets underway, research and Education go hand-in-hand as students and faculty work and learn together. Many activities are underway at the ND EPSCoR State Office, making the fall season an exciting time to be involved.

One of the core elements of the mission of the ND EPSCoR State Office is to help increase research capacity and competitiveness across the state through strategic programs and financial investments. The ND EPSCoR State Office achieves its mission through programming, partnerships, financial investments in institutions of higher education to build STEM capacity and competitiveness, and obtaining additional external funding for STEM research, education, and outreach activities. These investments in capacity building at all 11 of our participating institutions result in new equipment, undergraduate and graduate student support, and new discoveries.

Through the NSF RII Track-1 New Discoveries in the Advanced Interface of Computation, Engineering, and Science (ND-ACES) cooperative agreement, research investments in the Center for Cellular Biointerfaces in Science and Engineering build research capacity to better understand design rules that govern in vitro biointerfaces and influence in vivo decisions surrounding the understanding of biochemistry and the cell biology of cancer cells and tumors. Now in its third year, this cooperative agreement has led to an expanded collaboration network across the 10 participating institutions that will benefit ND now and into the future.

The ND EPSCoR State Office also supports outreach efforts that motivate the next generation of STEM

students in ND. Students and faculty work diligently to share their research through publications, presentations, and outreach to benefit citizens across the state. The Nurturing American Tribal Undergraduate Research and Education (NATURE) program is one such educational outreach project. NATURE aims to improve STEM education among middle school, high school, and tribal college students. This month marks the beginning of another academic year of Sunday Academy, a monthly program designed to generate interest in STEM among American Indian students.

Strong partnerships lay the foundation for future growth. These positive relationships are vital to supporting STEM education and workforce development in ND. The ND EPSCoR State Office partners with entities that reach across the state to support efforts to broaden the STEM pathway. These alliances also provide a way to enhance the work of the ND EPSCoR State Office by reaching underserved communities and developing long-term relationships. Each year, the ND EPSCoR State Office partners with ND companies to provide STEM internships to students through our Students in Technology Transfer And Research (STTAR) program. Summer 2022 STTAR internships just concluded. Read on [page two](#) about one former STTAR intern who has stayed with the company as a permanent employee for the past 15 years.

Enjoy the beauty of the fall season and the excitement that a new semester brings. I hope that you are, and will continue to be, well.

Regards,
Kelly A. Rusch, Ph.D., P.E., BCEE
Executive Director
ND EPSCoR State Office



STTAR intern becomes long-term employee

The Students in Technology Transfer And Research (STTAR) program provides juniors, seniors, and graduate students who are majoring in STEM disciplines a valuable opportunity to apply their academic training and experience in order to address science and technology-based problems faced by ND companies. The internships, which take place over a minimum of eight weeks, are supported by a cost-sharing agreement between the ND EPSCoR State Office and our industry partners.

Mike Zietz is a former STTAR intern who has stayed with Appareo. Zietz graduated from North Dakota State University (NDSU) in 2007 with a bachelor's degree in Electrical Engineering. He has now been an employee at Appareo for 15 years.

Currently, in the role of Technical Director for Government and Defense, Zietz oversees the technical direction of projects related to the government and defense side of the business.

"Hands-on product development and project work really were invaluable to provide me the ability to land an internship as well as build a strong foundation for my career to build off of. This internship may not have happened without this funding, which meant I may not have worked at this company and then would probably not have stayed in North Dakota," said Zietz.

Learn more on our [STTAR program information page](#) or contact the ND EPSCoR STEM Grant Writer & Program Manager, [Josh Wayt](#).



collaborations in the sustainability of the ND-ACES effort, travel seed awards of up to \$3,000 are available to the ND-ACES Center for Cellular Biointerfaces in Science and Engineering (CCBSE) senior personnel to facilitate the development of research-based engagement with potential collaborators.

Liu visited the Medical College of Wisconsin to meet with Victor Jin, Ph.D. in late August to learn about new omics experiments and data and further discuss a collaboration. Through this collaboration, the pair expects to submit an NIH grant proposal next month.

We wish Liu and his collaborator much luck with their upcoming proposal.

Events and trainings

September training on online thought leadership

An upcoming training session will explore how developing a professional presence online can help scholars become established as thought leaders in their respective fields while also navigating the challenges of communicating in today's cluttered social media environment. ND-ACES

Communication and Dissemination Lead **Justin Walden** (pictured above, right), Associate Professor of Communication at NDSU, will offer practical tips for growing one's networks on social media and for communicating about science and research in online spaces. **This session is scheduled for September 15 at noon at the Zoom link below.** Attendees will be provided with suggestions on avoiding the common pitfalls that come in developing an online presence, tips for breaking down complex research findings into public-accessible information, and suggestions on how to deliver meaningful messages about their research and teaching to various stakeholders on social media. To participate, visit <https://zoom.us/j/9577792634>.

Additional resources, including supplemental readings, are available on the [Communication & Dissemination Training page on Symposium](#).



ND-ACES partnerships and collaborations feature



ND-ACES Computation, Machine Learning, and Predictive Modeling Pillar researcher **Lu Liu** (NDSU, pictured left) recently visited the Medical College of Wisconsin after receiving a Travel Award for ND-ACES CCBSE Faculty Participants. To underscore the importance of

New Faculty Virtual Open House

You are invited to the



Virtual Open House

October 13th, 2022
3:00 p.m. CT - 4:00 p.m. CT

The ND EPSCoR State Office would like to extend an invitation to new faculty members to join us for a virtual open house on **Thursday, October 13th at 3:00 p.m. CDT.**

Here is a [link to a short video with more information about this event](#). We will be sharing information about our RFP process and much more. There will also be time for new faculty members to network with peers from institutions around the state. [Register here](#). Please share with interested new faculty members!

Responsible Conduct of Research (RCR)

RCR training is available upon request to augment initial campus or Collaborative Institutional Training Initiative (CITI) RCR trainings. Please [get in touch with ND EPSCoR](#) to schedule.

Funding opportunities

Funding Opportunities come from three sources:

1. The National Science Foundation (NSF)-funded New Discoveries at the Advanced Interface of Computation, Engineering, and Science (ND-ACES) RII Track-1 cooperative agreement, which consists of two broad components: 1) Center for Cellular Biointerfaces in Science and Engineering (CCBSE), which consists of three research pillars: materials design, cellular systems, and computational approaches and 2) PROMoting Sustainable Partnerships in Education and Research (PROSPER), which consists of four connected project elements: education and workforce development, broadening participation, partnerships and collaborations, and communication and dissemination.
2. ND EPSCoR State Office
3. [EPSCoR and EPSCoR-like federal funding agencies](#), which include: Department of Energy (DOE), National Aeronautics and Space Administration

(NASA), National Institutes of Health (NIH), NSF, U.S. Department of Agriculture (USDA), and Department of Defense (DoD).

Rural Student Teaching Experience (RSTE) Program

The ND EPSCoR National Science Foundation (NSF)-funded RII Track-1 cooperative agreement New Discoveries in the Advanced Interface of Computation, Engineering, and Science (ND-ACES) Rural Student Teaching Experience (RSTE) program provides unique learning experiences for up to two teacher candidates. The goal of the RSTE program is to provide an exceptional learning experience for teacher candidates in a rural school and community while they complete the requirements of their undergraduate programs. For more information, see the [Request for Applications](#) and the [informational flyer](#).

Application Deadline: noon on September 23, 2022

Distributed Research Experiences for Undergraduates (dREU)

The Distributed Research Experience for Undergraduates (dREU) program is designed to strengthen North Dakota's STEM ecosystem by catalyzing bioscience research and career development opportunities for undergraduates. Selected students will conduct science, technology, engineering, and mathematics (STEM) research projects under the supervision and guidance of faculty researchers from the New Discoveries in the Advanced Interface of Computation, Engineering, and Science (ND-ACES) Center for Cellular Biointerfaces in Science and Engineering (CCBSE). Like all ND-ACES programs, dREU is committed to building a diverse pool of engaged students and competitive researchers. Minorities underrepresented in STEM (e.g., women, first-generation college students, persons with disabilities, rural populations) are thus strongly encouraged to apply. For more information, see the [Request for Applications](#).

Application Deadline: Open Until Funds are Exhausted

Undergraduate Research Assistantship (URA) Program

This program gives current junior and senior undergraduate students pursuing a B.S. STEM degree at a four-year institution (or a two-year institution granting B.S. STEM degrees) in North Dakota an opportunity to perform research within the National Science Foundation (NSF)-funded New Discoveries in the Advanced Interface of Computation, Engineering,

and Science (ND-ACES) Center for Cellular Biointerfaces in Science and Engineering (CCBSE).

The URA is a six-month award that is renewable for up to one additional year. URA awardees will conduct up to 18 months of research under the direction of a ND-ACES CCBSE researcher. For more information, see the [Request for Applications](#).

Application Deadline: Open until funds are exhausted

Doctoral STEM Teaching Assistantship

The Doctoral STEM Teaching Assistantship is supported by the NSF-funded award New Discoveries in the Advanced Interface of Computation, Engineering, and Science (ND-ACES). This assistantship is designed to strengthen North Dakota's STEM ecosystem by building a diverse pool of effective educators, skilled researchers, and engaged students. More specifically, the assistantship will (a) strengthen doctoral students' experience in undergraduate STEM education, and (b) reduce the instructional workload of ND-ACES faculty at non-research universities, thereby allowing them to devote additional time to research.

The Doctoral STEM Teaching Assistantship is a semester-long teaching placement (during Fall 2022 or Spring 2023). Eligible candidates must be enrolled in a doctoral STEM program at a North Dakota research university (i.e., North Dakota State University or the University of North Dakota).

For more information, see the [Request for Applications](#).

Spring 2023 Assistantship deadline: October 1st

Nationwide Eclipse Ballooning Project (NEBP)

Space Grant is excited to start planning North Dakota's involvement in the Nationwide Eclipse Ballooning Project (NEBP). This NASA-sponsored project will involve over 70 teams, and the ND Space Grant team will create a statewide ND team within the Atmospheric Sciences track. There will be two upcoming eclipses in 2023 and 2024, and our efforts will work towards the following goals:

- Goal 1: Enable inclusive STEM education for participating students
- Goal 2: Advance learners' understanding of the process of science
- Goal 3: Create, enhance, and sustain networks and partnerships

Students and educators from minority-serving institutions (MSIs), 2-year institutions, and early career faculty are encouraged join our multi-institution ND team. The Space Grant team will be involved with

everyone throughout the entire process/timeline. Come join the fun!

More information can be found on our blogs page.

If you are interested, please send msaad@space.eduan email by September 15th.

STEM Research and Education Request for Proposals (NDSU only announcement)

The ND EPSCoR State Office's mission is to support efforts of participating institutions of higher education across the state that result in increased STEM research capacity and competitiveness; a stronger STEM pathway that produces our next generation workforce, educators, and researchers; and an informed citizenry that values the STEM ecosystem and economy. Thus, the NDSU campus of ND EPSCoR is now accepting proposals to fund STEM activities. For details, see the [Request for Proposals](#).

Deadline: noon, October 27, 2022

ND NASA EPSCoR CAN Request for Pre-Proposals

In response to the [NASA Notice of Funding Opportunity \(NOFO\) EPSCoR Research Announcement Number: NNH23ZHA001C](#), the [North Dakota NASA EPSCoR \(Established Program to Stimulate Competitive Research\)](#) is soliciting pre-proposals from faculty at [affiliate institutions](#) specifically designed to promote and expand NASA research in North Dakota. Following preliminary proposal selection by ND NASA EPSCoR, the selected pre-proposal team will work directly with the ND NASA EPSCoR office to submit a full proposal to NASA via NSPIRES.

Pre-proposals are due Noon, 9/23/2022.

The full RFP, online submission form, and budget sheet can be found in the [RFP announcement on the ND NASA EPSCoR website](#).

STEM Research, Education, and Outreach Request for Proposals

The ND EPSCoR State Office's mission is to support efforts of participating institutions of higher education across the state that result in increased STEM research capacity and competitiveness; a stronger STEM pathway that produces our next generation workforce, educators, and researchers; and, an informed citizenry that values the STEM ecosystem and economy.

Thus, the ND EPSCoR State Office is now accepting proposals to fund STEM activities at EPSCoR participating institutions: research universities (RUs; NDSU and UND), master's college/university (MCU; Minot State University), primarily undergraduate institutions (PUIs; Dickinson, Mayville, and Valley City

State Universities), and the tribal colleges/universities (TCUs; Cankdeska Cikana Community College, Nueta Hidatsa Sahnish College, Sitting Bull College, Turtle Mountain Community College, and United Tribes Technical College). For details, see the [Request for Proposals](#).

Deadline: Noon, September 30, 2022

Travel Awards for ND-ACES CCBSE Faculty Participants

ND EPSCoR's New Discoveries in the Advanced Interface of Computation, Engineering, and Science (ND-ACES) RII Track-1 mission is to support scientific efforts that result in increased STEM faculty capacity and competitiveness.

To underscore the importance of collaborations in the sustainability of the ND-ACES effort, travel seed awards of up to \$3,000 are available to ND-ACES Center for Cellular Biointerfaces in Science and Engineering (CCBSE) senior personnel. A collaboration is the extension or development of a research-based engagement (directly aligned with the CCBSE applicant's ND-ACES activities) with a non-CCBSE researcher affiliated with an academic institution or national laboratory. Travel must be within the domestic U.S. (including within ND) and must be completed by 6/15/23. For details, see the [Request for Proposals](#).

Proposal Submission Deadline: when funds are exhausted

Defense Established Programs to Stimulate Competitive Research (DEPSCoR) FOAs

The Department of Defense (DoD) announces the fiscal year 2022 (FY22) Defense Established Program to Stimulate Competitive Research (DEPSCoR). The program is sponsored and managed by the Basic Research Office, Office of the Under Secretary of Defense for Research and Engineering (OUSD [R&E]), awarded by the Air Force Office of Scientific Research (AFOSR), and administered through the Office of Naval Research (ONR). The DoD plans to award FY22 DEPSCoR appropriations through this announcement.

The Research Collaboration ([FOA-AFRL-AFOSR-2022-0006](#)) funding opportunity seeks proposals that advance knowledge in basic science involving bold and ambitious research that may lead to extraordinary outcomes such as disrupting accepted theories and perspectives. Proposals must be submitted by a pair of researchers in DEPSCoR States/Territories (Applicant and Collaborator) aimed at introducing potential applicants to the DoD's unique research challenges and its supportive research ecosystem.

The Capacity Building funding opportunity ([FOA-AFRL-AFOSR-2022-0007](#)) aims to support the strategic objectives of institutions of higher education (IHE) (either individually or in partnership with others) in DEPSCoR States/Territories to achieve basic research excellence in areas of high relevance to the DoD.

Current Closing Date for Applications: Feb 21, 2023

FY 2023 RII Track-1 solicitation (NSF 22-599)

The FY 2023 RII Track-1 solicitation (NSF 22-599) has been released.

<https://beta.nsf.gov/funding/opportunities/epscor-research-infrastructure-improvement-program-track-1-rii-track-1>

Letter of Intent Due Date(s) (required) (due by 5 p.m. submitter's local time):

July 19, 2022

Full Proposal Deadline(s) (due by 5 p.m. submitter's local time):

August 22, 2022

NOTE: With a current RII Track-1 in progress, North Dakota is not eligible for this solicitation until 2024. However, it remains listed here as a reference.

NSF: EPSCoR Workshop Opportunities

EPSCoR is designed to fulfill NSF's mandate to promote scientific progress nationwide, and NSF EPSCoR continually welcomes proposals for workshops in Solicitation NSF 19-588. These workshops focus on multi-jurisdictional efforts of regional to national importance related to EPSCoR's goals and NSF's mission. For more information, please see the RFP: [EPSCoR Workshop Opportunities](#)

Acronyms

Participating Institutions:

- Master's College/University (MCU)
 - Minot State – Minot State University
- Primarily Undergraduate Institutions (PUIs)
 - DSU – Dickinson State University
 - Mayville State – Mayville State University
 - VCSU – Valley City State University
- Research Universities (RUs)
 - NDSU – North Dakota State University
 - UND – University of North Dakota
- Tribal Colleges/Universities (TCUs)
 - CCCC – Cankdeska Cikana Community College
 - NHSC – Nueta Hidatsa Sahnish College

- SBC – Sitting Bull College
- TMCC – Turtle Mountain Community College
- UTTC – United Tribes Technical College

Funding:

- National Science Foundation (NSF) EPSCoR Research Infrastructure Improvement (RII) Track-1 Cooperative Agreements
 - ND-ACES – New Discoveries in the Advanced Interface of Computation, Engineering, and Science (NSF OIA #1946202)
- NSF Collaborative Research
 - CIRCLES Alliance – Cultivating Indigenous Research Communities for Leadership in Education and STEM Alliance (NSF OIA #2038196)
- ND EPSCoR State Office
 - STEM programming identified within the newsletter and state match funding for ND-ACES

Acknowledgement

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Stay in touch

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