

## **We are all students**

A typical fall is full of excitement for a new academic year. This year, feelings of anticipation are coupled with new opportunities for continuous professional development. We are all now students as we absorb new ways to teach, learn, and research.

Students, faculty, and staff are approaching this autumn without the same familiarity they are accustomed to. Virtual classes, face coverings, physical distancing, and plexiglass partitions are all a part of the new normal for institutions across ND. We added new skills to our repertoire to communicate, educate, and interact with each other.

These new skills help us create unique, safe environments to continue learning and researching while also protecting our communities' vulnerable populations. We strive to create an ideal learning environment for every student, including the continuation of participatory research opportunities.

With health and safety at the forefront of our minds, a mix of in-person and virtual instruction and research mark the beginning of this new season. We move forward, understanding more and more about the realities of a changing world and the ambiguity of day-to-day life.

Faculty, researchers, and staff spent many of their summer days increasing their knowledge of new technologies to engage in remote learning and research. Much planning occurred following the sudden shift to virtual instruction last spring. We are all learning together as we move out of our regular routines and adopt a new paradigm of flexibility for this academic year.

This summer, we held a strategic planning session for the ND-ACES (New Discoveries in the Advanced Interface of Computation, Engineering, and Science) RII Track-1 Cooperative Agreement. This plan contains a detailed risk management section and varying COVID-19 scenarios. Having dedicated preparation time helped us all to better forecast the needs of our research and outreach efforts, amid shifting circumstances.

I want to acknowledge everyone who has contributed to efforts to continue research, education, and outreach activities in the face of new challenges. This important work continues and adapts each day with evolving public health information.

As the new normal continues to transform fluidly, we gain a greater understanding of what success looks like in uncertain times. Research and education continue each day because of the collective leadership of students, faculty, and staff. We all work together to create research and learning environments that keep each other healthy and well. Adapting to virtual classes does not just mean learning new technical skills, but also picking up new styles of teaching and learning.

Virtual learning environments are more than just digital versions of the physical classroom. When the pandemic shuttered institutions across the country, many faculty had little choice but to move their in-progress courses online. With time, we have the opportunity to design better solutions to maximize student learning while COVID-19 persists.

We have coped with the pandemic in our daily lives for several months now. Autumn is a time to assess new opportunities for personal and professional growth. Innovations on each campus continue as we are all reminded of our roles as life-long learners.

We are all pupils once again. ND EPSCoR will continue collaborative efforts with researchers and scholars across ND, learning new ways to conduct research, educate students, and connect. We are privileged to be a part of this community of practice as we support the STEM pathway to grow our state's economy.

Regards,

**Kelly A. Rusch**, Ph.D., P.E., BCEE  
ND EPSCoR Executive Director



## The ND-ACES Cellular Systems Pillar

Working collaboratively within the Center for Cellular Biointerfaces in Science and Engineering (CCBSE), the ND-ACES Cellular Systems Pillar researchers will be working alongside the Computational Approaches (to be spotlighted in our October issue) and Materials Design (spotlighted in our [August 2020 issue](#)) Pillars to garner an improved interdisciplinary understanding of biological and engineered materials biointerfaces.

The Cellular Systems Pillar is co-led by **Archana Dhasarathy** (UND) and **John Wilkinson** (NDSU). Team members include **Colin Combs** (UND), **Nick Galt** (VCSU), **Amanda Haage** (UND), **Kerry Hartman** (NHSC), **Kalpana Katti** (NDSU), **Jiha Kim** (NDSU), **Joshua Steffan** (DSU), **Guodong Du** (UND), **Hilde van Gijssel** (VCSU), and the liaison to the Computational Pillar, **Tao Yu** (UND).



Cellular Pillar

has unique skills they are bringing to the team," said Combs, one of the two co-leads of the CCBSE, along with Katti.

"The five-year plan stems from the overarching goal of finding better ways to test human biology," said Wilkinson. Haage added, "I hope we come out of this project with a better understanding of how metastasis progresses and novel therapeutic targets to help fight it."

According to Dhasarathy, this pillar's research occurs in close collaboration with the Materials Design and Computational pillars. "Using materials generated by the Materials Pillar Group, we will be performing several types of experiments to systematically test the biological aspects of cells grown on these material scaffolds. For instance, do these cells have a similar rate of growth compared to standard methods? Can they move or respond to stimuli similar to published methods? Basically, we are testing how well the newly synthesized materials perform in combination with cancer cells in three-dimensional culture in order to more accurately replicate the natural tumor environment relative to growing cells in a Petri dish in only two dimensions. In addition, using nanomaterials to image these cells would be exciting. If successful, this approach will help make more meaningful scientific conclusions about how cancer cells behave, and will ultimately improve human health," she said.

The Cellular Systems Pillar team comprises researchers from across ND, all of whom are eager to engage in collaborative research across disciplines. Each of the three research pillars has liaisons. These liaisons ensure that the workflow is smooth, and the project remains on track.

Tao Yu is the liaison to the Computational Approaches Pillar. Du and Katti serve as liaisons to the Materials Design Pillar. "As my own research is on the materials side, I really look forward to the collaboration with other pillars, especially the Cellular Pillar, to further develop some of the polymeric materials we made in our group," he said.

Over the five years of the ND-ACES project and beyond, the ultimate goal of the CCBSE is to use interdisciplinary and transdisciplinary research in biointerfaces (the interface between engineered and biological materials) that uses advanced research computing as a conduit for intellectual and translational advances. "The ND-ACES project is designed for collaboration across the many different disciplines and different institutes, and this is an exceptional opportunity," added Kim.



*The Cellular Systems Pillar comprises, from left to right, (top row) Archana Dhasarathy, John Wilkinson, Colin Combs, Nick Galt, Amanda Haage, and Kerry Hartman, (row two) Kalpana Katti, Jiha Kim, Joshua Steffan, Guodong Du, Hilde van Gijssel, and Tao Yu.*

The Cellular Systems Pillar focuses on increasing the capacity and expertise of the CCBSE researchers in basic and translational use of in vivo-like 3D cell cultures, which will ultimately allow the team to partner with regional health care providers to serve as a resource for personalized medicine approaches to cancer. "Everyone

## Science storytelling: Communication and Dissemination

The new \$20M NSF EPSCoR RII Track-1 effort, which began July 1, ND-ACES, will build university-based scientific and translational research capacity to help drive the continued growth of the state's biosciences ecosystem.

The ND-ACES STEM outreach arm, Promoting Sustainable Partnerships in Education and Research (PROSPER), will be working simultaneously to build: a tech-savvy workforce through diverse STEM education and professional development pathways, broadened participation by underrepresented and underserved populations, and sustained impact through the translation of research into the private sector.

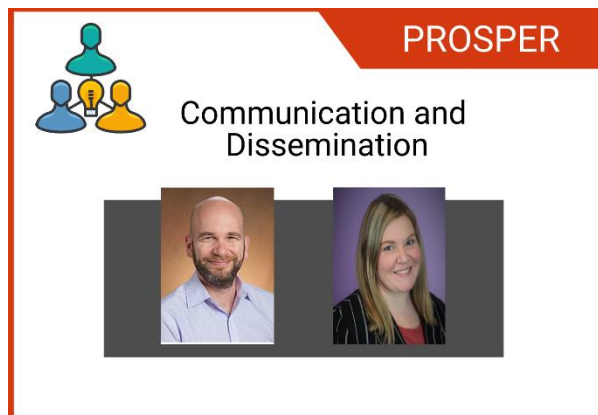


**P**ROMoting Sustainable Partnerships in Education and Research  
 PROSPER stands for Promoting Sustainable Partnerships in Education and Research.

With a passion for all participants' personal, educational, and professional success, the PROSPER team focuses on the implementation of activities that benefit many ND communities. Communication and Dissemination is one of PROSPER's four components, collaborating with all participants on numerous ND-ACES activities. Two (Education and Workforce and Broadening Participation) were spotlighted in the [July 2020 issue](#) and the [August 2020 issue](#). The fourth (Partnerships and Collaborations) will be spotlighted in October.

The Communication and Dissemination component of PROSPER is led by **Zoltan Majdik**, Associate Professor of Communication (NDSU), and co-led by **Cailin Shovkoplyas** (ND EPSCoR Communication Manager).

The Communication and Dissemination team works collaboratively with all ND-ACES personnel on efforts to increase science communication. The team keeps all stakeholders informed; supports all ND-ACES groups' harmonious interactions; assists research and programmatic participants in disseminating their work to legislative, scientific, and citizen stakeholders; and develops materials for consumption by a lay audience.



*The PROSPER Communication and Dissemination team is comprised of, from left to right, Zoltan Majdik and Cailin Shovkoplyas.*

Majdik is looking forward to putting some of his research into applied practice. "My research often deals with very large corpora (large datasets of natural language and text), which are, because of their size, removed from the day-to-day process of science communication. It'll be exciting to see how I can use what I find in my research to help scientists 'on the ground' communicate with publics."

Another significant component of the Communication and Dissemination effort is ND EPSCoR's Annual Conference. This annual scientific conference, a requirement of the cooperative agreement, will continue as a part of the ND-ACES project.

PROSPER's Communication and Dissemination goals are to develop an elevated public understanding of the economic impact of growing ND's bioscience sector through strategic research investments resulting from data-sharing, communication, and outreach; facilitating communication between participants; and to contributing to a scientifically informed citizenry.

The Communication and Dissemination team will provide workshop opportunities for faculty and graduate students to learn about science communication topics and participate in practice sessions to increase science communication skills. Additionally, the team will ensure that we have a diverse representation of science and scientists on the website, to help engage all publics. The goal of public engagement is to educate the local public about the value and the benefits of science.

"A lot of science communication is still modeled after what we call the 'deficit model,' where an audience's attitude toward science is often assumed to come from their ignorance of science. This model does not work. More information rarely leads people to

know more about science, to change their attitudes toward science, or to incorporate scientific findings into the decision-making processes. Communicative frameworks that start with engagement, story-telling, and other techniques are more successful," said Majdik.

## **Grant received to work with native communities on Indigenous-based STEM Education**

The National Science Foundation (NSF) has awarded ND EPSCoR (and NSDU and UND researchers) and its five EPSCoR partner states a total of \$770,143 in collaborative research grants to address the under-representation of American Indian and Alaska Native (AI/AN) students in the science, technology, engineering, and math (STEM) disciplines and workforce. The project begins October 1, and ND EPSCoR will receive \$185,330 of the total grant award.

The Cultivating Indigenous Research Communities for Leadership in Education and STEM (CIRCLES) Alliance builds on existing partnerships with tribal communities and tribal colleges in six states in the western half of the U.S. (Idaho, Montana [lead institution for this collaborative research], New Mexico, North Dakota, South Dakota, and Wyoming) to develop a collective strategy for increasing the engagement, involvement and success of AI/AN students in STEM. Funding for the award comes primarily from the NSF division of EPSCoR and involves a partnership with NSF's Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES) community.

"The CIRCLES Alliance looks to increase the knowledge gained by the combined effort of states that will collectively engage and impact AI/AN communities through conversation, interviews, and relationship building with the tribal entities in each state. We recognize that a different framework is needed for AI/AN students that recognizes and incorporates the unique traditional knowledge, sense of place, rights of sovereignty, and culture of Indigenous peoples," said Aaron Thomas, director of Indigenous Research and STEM Education and an associate professor of chemistry at the University of Montana (UM). Thomas is the principal investigator of this collaborative effort at UM, the project's lead institution. Kelly A. Rusch, executive director of ND EPSCoR and a professor in the Department of Civil and Environmental Engineering at NDSU, is the principal investigator for NDSU. ND EPSCoR

also serves as the administrative backbone for this six-state alliance.

Through the CIRCLES Alliance, Rusch (NDSU), Ryan Summers (Assistant Professor, Teaching and Learning, UND), and ND EPSCoR's Shireen Alemadi, Scott Hanson, and Jean Ostrom-Blonigen will join researchers at the UM, University of Idaho, Central Wyoming College, the University of New Mexico, and Black Hills State University to build on strong, existing partnerships with tribal communities and colleges to learn promising practices and areas of greatest need in STEM education for AI/AN students. The project will look to develop AI/AN-based STEM education activities for K-12 and higher education students and become a model for partnering with tribal communities to advance Indigenous-based STEM education. Ultimately, the project aims to support tribal communities in producing a STEM-ready workforce to meet their communities' unique economic development needs. ND EPSCoR has long-standing collaborations and programs with the state's Tribal Colleges (TCUs). "We look forward to strengthening these existing partnerships and building new and authentic collaborative efforts with the state's tribal communities to pursue indigenous-based STEM activities that address individual community needs," said Rusch. Nineteen of the [37 TCUs accredited by the American Indian Higher Education Consortium](#), are located in these six EPSCoR states.

"With 10.5% of the nation's AI/AN population residing within our project's six states, we are poised to make a meaningful, collective impact across our region while generating results and approaches that can be scaled nationally," said Thomas.

## **Communicating the results of six years of collaborative work**

As INSPIRE-ND (Innovative and Strategic Program Initiatives for Research and Education-North Dakota) RII Track-1 Cooperative Agreement enters its seventh year, EMPOWERED-ND Corps, the broader impacts component of INSPIRE-ND, is focused on speaking directly to stakeholders and disseminating the research of CSMS (Center for Sustainable Materials Science) and CRCS (Center for Regional Climate Studies) over the past six years that has benefitted ND.

CRCS Co-Lead **Aaron Kennedy**, Associate Professor of Atmospheric Science at UND, is looking forward to this phase, "A big part of the focus has been identifying other related efforts from other agencies/groups that look at the larger region. For example, during the

stakeholder workshop in 2019, we invited partners from the USDA and the Northern Plains Regional Climate Center to speak. On the climate side of the spectrum, industry connections are probably fewer than what CSMS has. Rather, most of our connections have been with what I'd call public data providers. Moving forward, we want to make sure we continue these connections. For example, we just had a research scientist from NASA speak about crop modeling efforts. One thing he emphasized was less connectivity in the Northern Plains, so I think the most important role we [CRCS] can play is serving as the middle-person between the users (farmers) and regional/national/international science efforts."

Several climate challenges were studied throughout INSPIRE-ND. This has improved the knowledge of weather processes and enhanced modeling of water that helps forecast flooding, drought, and water quality.

The collaborative effort of INSPIRE-ND continues to build connections across ND. According to Kennedy, this has contributed to a better understanding of what work is being done in different fields across the state. "When questions arise on the fringe of our fields, I feel like I now know someone I could call on a whim."

## CSMS research develops acrylic monomers derived from plant oils

**Andriy Voronov**, Professor of Coatings and Polymeric Materials (NDSU), is researching the development of an efficient and cost-effective process to convert plant oils into acrylic monomers used to produce biobased polymers, including latexes.

The method can use any plant oil, animal fat, or other fatty esters as the raw material. Monomers derived from olive, high oleic soybean, canola, sunflower, soybean, corn, linseed, and other plant oils have been made and tested. The testing has demonstrated that this technology may provide multiple benefits and a range of customization options.

Voronov has spent the last five years working on this research, leading to the development of two patented technologies: one on monomer synthesis and another on monomers and polymer synthesis.

"The first challenge was to take what we do with the oils and actually transform modified changes in the structure of this oil into the way that it can be polymerized so it can be used in polymerization, specifically in latex production."

The performance attributes of the CSMS monomers provide many benefits as compared with existing biobased polymers.



Graduate students **Yehor Polunin** (NDSU) (left) and **Zoriana Demchuck** (NDSU) (right) work with plant oil-based monomers.

"The main goal is to replace petroleum-based ingredients," said Voronov. The use of plant oil-based monomers may provide unique and valuable commercial benefits compared with the competing synthetic polymers. The resulted latexes have several applications, including resins, paints, coatings, bioplastics, adhesives, and chemical binders.

As an additional benefit of this technology, plant oil-based monomers can be direct substitutes for petroleum-based counterparts without changing the manufacturing process.

## ND EPSCoR launches an Education Portal with STEM lesson plans for teachers

We are happy to announce that our Education Portal is now live! The [ND EPSCoR Education Portal](#) is an online resource with a variety of lesson plans available to download at no cost.

Over the past few months, **Scott Hanson**, ND EPSCoR Tribal Colleges and Universities Liaison Manager and NATURE Coordinator, and **Shireen Alemadi**, ND EPSCoR STEM Manager, have worked with K-12 educators across the state to take the ND EPSCoR Sunday Academy modules created by NDSU and UND faculty and refined with the help of TCU faculty and develop them into full STEM lesson plans for teachers to download and use in their classrooms.

The lesson plans are linked to research being conducted by the faculty at UND and NDSU, who created the original modules. The K-12 teachers who worked on the lesson plan conversions this summer were: LeAnn Heid – Science Teacher, Bismarck Public Schools, Jessi Kjemhus – Science Teacher, Northwood Public Schools, Allie Kollman – Science Teacher, Fargo Public Schools, and Daniel Tuhy - Science Teacher, Minnewaukan Public Schools. Each completed lesson plan was then reviewed by **Jeni Peterson** - Education and Innovation Center Coordinator at Mayville State University, and **James Schanandore**, faculty at the University of Jamestown. "It has been great working with a team of dedicated STEM professionals to get the website and lesson plans ready this summer," said Alemadi. "I think it is great that the education portal will enable students across the country to benefit from these lesson plans," added Hanson.

The various modules that are now designed as lesson plans help students think, analyze, and seek solutions. In the portal, you can filter your search by subject or standards. Each lesson comes with a PowerPoint slide deck, a detailed plan, and associated worksheets and assessments. New STEM lesson plans will be posted to the Education Portal each year. If you have any questions, [contact Shireen Alemadi](#), STEM Manager, or [contact Scott Hanson](#), TCU Liaison and NATURE Manager.

Resources:

- [ND EPSCoR Education Portal](https://education.ndepscor.nodak.edu/)
- [ND EPSCoR Sunday Academy](https://www.ndepscor.ndus.edu/ndep/nature/sunday-academy/)

## Four TCUs offer NATURE STEM summer camps Despite COVID-19

By **Scott Hanson**, ND EPSCoR Tribal Colleges and Universities Liaison Manager and NATURE Coordinator (right)



Each summer, the TCUs (Tribal Colleges and Universities) in ND offer STEM camps for middle and high school American Indian students. Although COVID-19 made the summer of 2020 more challenging than usual, Cankdeska Cikana Community College (CCCC), Sitting Bull College (SBC),

Turtle Mountain Community College (TMCC), and United Tribes Technical College (UTTC) decided to offer virtual camps.



*A TCU Summer Camp participant from the Standing Rock Reservation enjoys a virtual hydrophobic surface lesson in his home.*

The curriculum is usually planned during face-to-face meetings at the NATURE University Summer Camp each June. That camp also moved online this year, so Scott Hanson, ND EPSCoR TCU Liaison and NATURE Manager, organized a series of planning meetings via Zoom starting in April. Since the TCU summer camp participants were confined to their homes, they needed fun and educational yet straightforward and safe activities for them to do independently using supplies that could be shipped or delivered to them ahead of time. The NATURE coordinators, **Chris Dahlen** at CCCC, **Mafany Ndiva Mongoh** at SBC, **Austin Allard** at TMCC, and **Mandy Guinn** at UTTC, decided to use STEM activities developed by [The Nano-Link Center for Nanotechnology Education](#).

The NATURE coordinators did Zoom sessions with the participants to explain and demonstrate each day's activities. They were available via phone or Zoom to help the participants if they had problems or questions. A total of 145 participants signed up for the camps.

According to Ndiva Mongoh, the schools on the Standing Rock Reservation appreciated the fact that the camp was being offered despite the pandemic. Evaluation results showed that the participants enjoyed the activities and thought they were worthwhile.

## Salaries

By **Janelle Smith**, ND EPSCoR Business Manager (right)



Salary-related expenses are often a significant portion of the budgets related to ND EPSCoR awards. Unfortunately, this is also a category that can be a bit confusing.

I outlined a few key things to keep in mind below.

Please remember that overtime is not allowed on ND EPSCoR awards, including the Track-1 and internal STEM RFP awards. Any hours tracked to overtime on EPSCoR awards will need to be shifted to alternate funding sources, which may cause difficulties for your department. It is far better to be aware of the time your students or other employees are working and ensure that no overtime hours are paid on the EPSCoR-related grant funding.

Overload salaries are also not permitted on any ND EPSCoR awards, except for instances explicitly requested and approved by NSF under the Track-1 awards. A buy-out of academic time may be allowed when faculty have a 12-month or 9-month fiscal contract.

Post-docs are not authorized on ND EPSCoR awards. They are not included in the budget and justifications for the ND-ACES award or the INSPIRE-ND extension. In the event that post-docs would later be approved, an approved mentoring plan would be required before the post-doc would be able to start.

In addition, visiting scholars and researchers are not allowed on ND EPSCoR awards unless they bring a specific skill or knowledge set that is critical to the project, and there will be a lasting impact after they leave. Any visiting students must receive pre-approval from ND EPSCoR before they are allowed to join the project.

Finally, as a reminder, please remember to complete the required [form](#) and obtain ND EPSCoR approval before adding any individuals to the Track-1 awards. This will, in turn, minimize the need for retroactive payroll adjustments and prevent delays in invoice processing, among other negative impacts to departments and subawardees.

## Awards and presentations

### Equipment Award

**Joshua Steffan**, Associate Professor of Agriculture, Microbiology, and Soil Biology at Dickinson State University (DSU), received an ND EPSCoR equipment grant in fall 2019 totaling \$40,000 towards the purchase of an LI-COR Biosciences carbon dioxide soil flux monitoring system. The total cost of the equipment was \$110,200. Craig Whippo, Associate Professor at DSU, secured a \$55,100 LEEF grant, and the remaining funding was obtained through ND INBRE (IDeA Networks of Biomedical Research Excellence) and from the manufacturer. The LI-COR Biosciences' LEEF (LI-COR Environmental Education Fund) Program is designed to place sophisticated, research-grade scientific instrumentation into the hands of students and faculty.



*Joshua Steffan poses with the LI-COR Biosciences carbon dioxide soil flux monitoring system.*

The system, designed to measure the amount of carbon dioxide released from the soil, can be adapted to measure carbon dioxide flux from any organism. The equipment is highly sensitive, able to measure the carbon dioxide released from a single fruit fly.



*LI-COR Biosciences carbon dioxide soil flux monitoring system.*

Steffan and Whippo, accompanied by DSU professors **Paul Barnhart**, Associate Professor of Biology, and **Eric Brevik**, Professor of Geology and Soils, visited the LI-COR headquarters in Lincoln, Nebraska, this summer to attend equipment-related training.

This equipment will allow DSU students to use the latest technology in and out of the classroom. The large amount of data generated with this instrument will also enable students to practice the analysis and visualization of large data sets. The hope is that integrating these types of technologies in the classroom will increase student engagement and student retention.

## **2020 STTAR summer internships wrap-up**

ND EPSCoR recently finished another season of STTAR (Students in Technology Transfer And Research) internships.



ND EPSCoR offers the STTAR program as part of its effort to broaden the STEM pathway in ND by cost-sharing interns' salaries with ND companies. The program provides real-world experience, accompanied by industry mentors who want to help students learn and find their niche.

For students, many are not aware of the nationally and internationally essential organizations that call ND their home. These internships help students polish their skills, build a resume, and may also provide a glimpse of future careers in their own backyards.

Congratulations to all summer 2020 STTAR program participants!

## **Funding opportunities**

### DEPSCoR Regional DoD Day

The Department of Defense (DoD) has asked the University of South Dakota to host a regional DEPSCoR DoD Day, where DoD program managers will provide information about the DEPSCoR program and general information about working with the DoD. The regional DEPSCoR Day will be held **on a date to be determined**, in Vermillion, SD. For more information, please see: [DEPSCoR Regional DoD Day](#)

### DOD EPSCoR (DEPSCoR) Funding Opportunity

The funding opportunity announcement for the FY20 DEPSCoR Competition is now available. DEPSCoR is a capacity-building program designed to support higher education research capabilities to perform competitive basic research in science and engineering that is pertinent to the DoD mission and reflect national security priorities. The deadline for paper submissions is **September 21, 2020**. For more information, please see: [DEPSCoR Funding Opportunity](#)

### EPSCoR Workshop Opportunities

EPSCoR is designed to fulfill NSF's mandate to promote scientific progress nationwide, and NSF EPSCoR 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](#)

### ND EPSCoR – All Participating Institutions

The ND EPSCoR State Office is accepting proposals to fund STEM activities across seven broad categories (equipment, equipment repairs, undergraduate research, seed awards for faculty to collect preliminary data, external proposal reviews, seed awards for faculty and students engaged in K-12 outreach, and development of online/virtual modules for STEM laboratory courses) at EPSCoR participating institutions. The deadline for proposal submission is **Noon, September 21, 2020**. For more information, please see the [RFP](#) announcement.

### ND EPSCoR-NDSU Campus Only

The NDSU campus of ND EPSCoR is accepting proposals to fund STEM activities across seven broad categories (equipment, equipment repairs, undergraduate research, seed awards for faculty to collect preliminary data, external proposal reviews, seed awards for faculty and students engaged in K-12 outreach, and development of online/virtual modules for STEM laboratory courses) at NDSU only. The deadline for proposal submission is **Noon, September 25, 2020**. For more information, please see the [RFP](#) announcement.



## Participating campus acronyms

- 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

## Stay in touch

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- Prior newsletters, [http://bit.ly/EPSCoR Newsletters](http://bit.ly/EPSCoR_Newsletters)
- Submit stories to: <https://bit.ly/epscorsubmitnews>
- To be added to the newsletter mailing list, please email [ndepscor@ndus.edu](mailto:ndepscor@ndus.edu), subject line: newsletter.

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