ND EPSCoR
Established Program to Stimulate Competitive Research

News & Notes

June 2021

ND-ACES, a first year in review

North Dakota's $20 million ND-ACES RII Track-1 cooperative agreement completes its first year on June 30, 2021. The agreement, which began on July 1, 2021, consists of one unified center: the Center for Cellular Biointerfaces in Science and Engineering (CCBSE). Faculty and student researchers from across the state collaborate within the CCBSE and are integrated with PROSPER (PROmoting Sustainable Partnerships in Education and Research), the broadening participation arm of ND-ACES.

During this first year, CCBSE researchers worked collaboratively to increase ND'S competitiveness in biosciences through the work of three integrated pillars of research inquiry: materials design at biointerfaces; cellular systems at materials interface; and computation, machine learning, and predictive modeling.

The ten ND-ACES-participating institutions include one master's college/university (MCU), three primarily undergraduate institutions (PUI), four tribal colleges/universities (TCU), and two research universities (RU). These institutions are working together to foster critical research infrastructure.

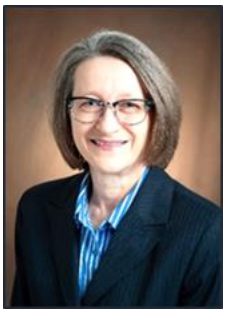
The goal of the CCBSE is to expand bioscience research capacity in improved soft tissue and bone-mimetic scaffolds and models that create and increase the knowledge of the biochemistry and cell biology of cancer cells and tumors. Throughout year one, the CCBSE researchers collaborated across multiple disciplines of materials science engineering, cellular biology, and scientific computing.

This first year featured a number of successful integrations between CCBSE and PROSPER. For example, CCBSE faculty helped to determine the best types of activities suitable for remote, at-home delivery of the NATURE Sunday Academy program, including determining content and preparing materials. CCBSE faculty also participated in the first ND-ACES Science Café, with PROSPER team members disseminating relevant STEM content to the public. The CCBSE is working with the PROSPER team to determine the best format for preparing a library of technical method training videos that will be made available to all personnel throughout the partnering institutions to ensure consistency of training and lab methodologies. Similarly, PROSPER and CCBSE are determining the best strategy for implementing Research Training Group meetings of all students involved in CCBSE research to facilitate vigorous monthly scientific exchange among peers at different institutions. Additionally, as another means of ensuring equitable opportunity, CCBSE and PROSPER are developing a mentoring program for early career faculty designed to facilitate career development.

Year One by the Numbers: two research universities, four tribal colleges/universities, three primarily undergraduate institutions, one master's college/university, 38 undergraduate student participants, 41 graduate student participants, 42 senior personnel, 14 early career faculty supported, two new faculty hires for 2021-22, five Emerging Areas Seed Awardees, 14 publications, 26 presentations, 159 total participants, and 915 engagement activity attendees.

Heading into year two, the mission of the ND-ACES cooperative agreement is to create and operate as a unified statewide center that collectively contributes to cancer research in ways that have state, regional, and national impacts underpinned by the sustainable activities of a trained and diverse STEM workforce and informed populace, which will lead to future efforts focused on new therapeutic solutions for cancer patients.

As we complete the first year of ND-ACES, the impact of the research and outreach efforts this agreement is making across our state is substantial. I hope that you are, and will continue to be, well.



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

Take a virtual lab tour

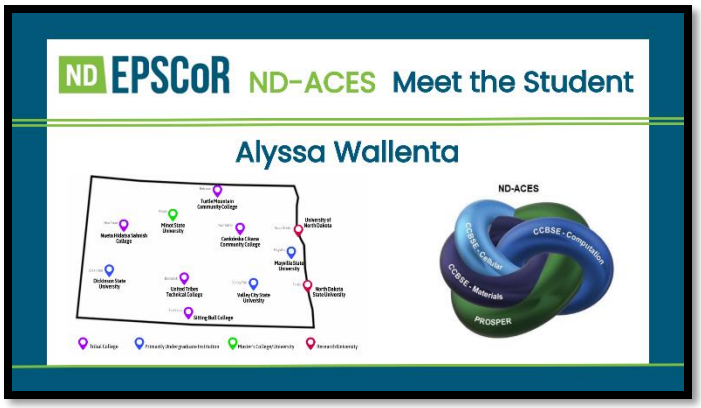
ND EPSCoR thanks ND-ACES Center for Cellular Biointerfaces in Science and Engineering (CCBSE) researchers for allowing our cameras to tour their interesting STEM spaces.

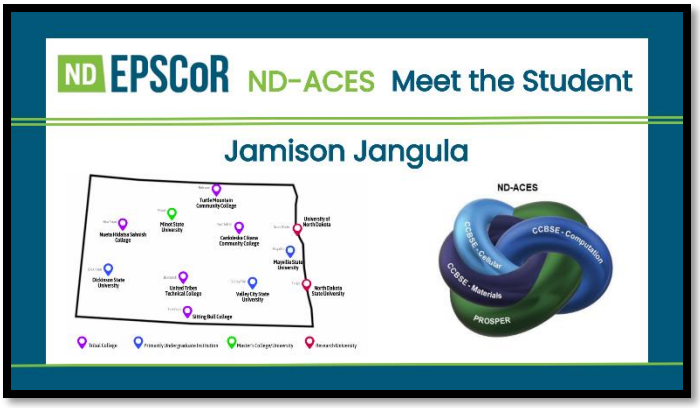
In the first 360° video (linked in the picture below), **Jiha Kim** (NDSU), Assistant Professor, Biological Sciences, provides the 360° experience of being in a university lab environment. The 360° video tours allow the viewer to look around the research lab in any direction, creating an immersive virtual experience.

In the next 360° video (linked in the picture below), Join graduate student **Raj Shankar Hazra** (NDSU; advisor: **Mohi Quadir**) on this immersive tour of a coatings and polymeric materials lab. Quadir, Assistant Professor, Coatings and Polymeric Materials, is a member of both ND-ACES and INSPIRE-ND.

In the next 360° video (linked in the picture below), join ND EPSCoR and **Dinesh R. Katti** (NDSU) on this immersive tour of the CCAST High Performance Computing Center. Katti, a Jordon A. Engberg Presidential Professor, Civil and Environmental Engineering is the NDSU Lead of the ND-ACES a Computation, Machine Learning, and Predictive Modeling Pillar.

ND EPSCoR visited **Tao Yu** (UND) on June 3, 2021 and filmed the below computational chemistry classroom tour at UND. Undergraduate students **Alyssa Wallenta** (UND) and **Jamison Jangula** (UND), both advised by Yu, were also interviewed as a part of this visit on June 3, 2021. Their video interviews as a part of this June 3, 2021 visit are linked below.



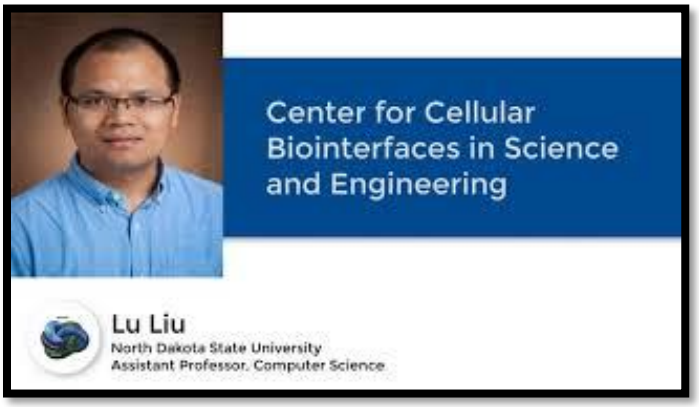


You can find more information about how the ND EPSCoR State Office seeks to help improve STEM education and to build a pathway for students in North Dakota who are interested in pursuing careers in STEM disciplines on our Education page. Subscribe to our channel on YouTube as we continue to feature researchers at our participating institutions across North Dakota.

Meet the ND-ACES Researchers video series

ND EPSCoR thanks ND-ACES Computation, Machine Learning, and Predictive Modeling Pillar researcher **Lu Liu** (NDSU) for allowing our cameras to capture his research and outreach efforts. Liu talks with ND EPSCoR about teaching, research, and STEM outreach across ND.

In the video (linked on the next page), Liu, an Assistant Professor of Computer Science, discusses the importance of the ND-ACES research activities and outreach efforts and the resulting impact on students in ND.



You can find details and videos of our earlier visit to Dickinson State Univerity in News & Notes' November issue. Videos from our prior visits to North Dakota State University and the University of North Dakota can be found in News & Notes' December issue. Videos from our visits to Mayville State University and Minot State University can be found in News & Notes' January issue.

Subscribe to our channel on YouTube as we continue to feature ND-ACES researchers at participating institutions across North Dakota.

Get to know the 2021 STTAR interns

The ND EPSCoR State Office recently kicked off another season of STTAR (Students in Technology Transfer And Research) internships. We will be featuring a Q&A series from our participating companies, beginning this month with **F4 Conservation**, **Ellingson Co.**, **Renuvix**, and **Rugby Manufacturing**.

Q. Tell us about your company.

A. We are a start-up company that conducts wildlife consulting and surveys using technology that includes drones (or unmanned aircraft systems) and Artificial Intelligence (AI) to process our imagery. F4 Conservation Consulting, LLC is the direct result of funding from the North Dakota Department of Commerce to conduct research at the University of North Dakota in the Biology Department with Xcel Energy, and Grand Forks-based start-up Airtonomy. Our work over the past 18 months has been successful enough that we are taking the next steps towards commercializing our survey work for a variety of industries with wind energy as the focal industry at this point.

Q. What are the benefits of having STTAR interns (to your company and the student)?

A. As a new company still conducting research and development, having interns is a huge asset to us in building up capacity to conduct work, but also training future employees capable of conducting this work as we grow. Students gain hands-on experience in the field and see an industry prospective to wildlife surveys needed for compliance with regulatory agencies.

Q. During their internship what will the students be working on?

A. Amalie Joergensen and Lindsey Kallis, both UND will be partnered with fellow UND student, Sally Yannuzzi, a doctoral candidate, who is also the Chief Operating Officer of the company, to validate our protocols for wildlife surveys conducted after wind farms are constructed. This will entail assisting with ground searches for wildlife carcasses, assisting with drone surveys, reviewing drone imagery, data entry, and conducting vegetation surveys. Students will gain both traditional wildlife survey skills as well as skills using technology from the drone surveys all the way through preparing imagery for AI evaluations of the imagery to putting together reports that industry partners like Xcel Energy or other wind companies would need to report to regulatory agencies such as the U.S. Fish and Wildlife Service.

Amalie Joergensen and Lindsey Kallis work with Chief Operating Officer of F4 Conservation Consulting, LLC, Sally Yannuzzi, to conduct a drone survey in western North Dakota.

Q. Have you partnered with the ND EPSCoR STTAR program before (if no, how did you hear about it)? What are the benefits of this partnership?

A. No. F4 Conservation Consulting was just established in February of 2021 so we are a very new company. We heard about this opportunity through our collaborating company, Airtonomy, who suggested this would be a great program to assist in staffing the company while we get started. This partnership is making it possible to conduct some of the critical research and development needed as a next step to commercialization for our start-up. As the founder and CEO of F4 Conservation Consulting, I am extremely grateful for this opportunity to have assistance in growing my company while I also have the opportunity to train the next generation of wildlife professionals capable of integrating technology tools into their toolkit.

Q. Tell us about your company.

A. Ellingson was founded in 1970 and is a family-owned, independent water- and infrastructure-management company providing safe, technology-driven construction planning, design, and installation services. The company is driven by the same customer-focused values and work ethic it was founded upon and has earned a reputation for quality, safe trenchless solutions in the agriculture, wet and dry utilities, and oil and gas industries.

STAAR intern Emily Nelson is a field engineer for Ellingson this summer.

Q. What are the benefits of having STTAR interns (to your company and the student)?

A. Having STTAR interns is a way that we as a company can bridge the gap between academia and the company experience. This program is an excellent way to build relationships with colleges and students before they enter the workforce.

Q. During their internship what will the students be working on?

A. Brenden VanWechel's (NDSU) role at Ellingson is an Ag Tech Advisor. (see photo below) He is working on an outreach program with the Ellingson App development team to help promote and create awareness of Ellingson's precision ag software platform. Brenden will be contacting non-Ellingson customers to set up demos and gather feedback on the Ellingson App. He is targeting colleges/universities, financial institutions, realtors, and agronomists to gain their feedback and see how the app can help them. He will also be riding along with the sales team and assisting them with any issues that they have with the app, and fielding any questions our customers may have about water management solutions.

Emily Nelson (NDSU) is a field engineering intern working to understand drain tile water flow. Her role in this project will be to help monitor, analyze, and interpret the data collected from the sensors installed at the field locations. Emily will be working with Ellingson GIS specialists on digitizing old drain tile maps for future reference and usage which will provide insight into how the drain tile systems are set up and function. She will also job shadow the environmental team on a project site in Colorado to learn more about the processes that they use to install a water well.

STTAR intern Brenden VanWechel works as an Ag Tech Advisor.

Q. Have you partnered with the ND EPSCoR State Office STTAR program before (if no, how did you hear about it)? What are the benefits of this partnership?

A. This is the first time we are partnering with the ND EPSCoR State Office. A student made the first contact with us and we are excited to continue with this program and look forward to developing a mutually beneficial relationship for us and the students.

Renuvix

Q. Tell us about your company.

A. Renuvix has broad and extensive industrial and research experience in product and process development and manufacturing. Renuvix is a technology company with a unique set of patented and patent-pending technologies with performance advantages over other technologies currently on the market. Renuvix products are safe renewable alternatives for petroleum-based materials used in various industries. The company is developing new safer products for high-volume industrial applications as well as looking for new applications for existing products.

Q. What are the benefits of having STTAR interns (to your company and the student)?

A. The STTAR program offers the mutual benefit to both our company and the summer interns. As a small technology team, we are limited in resources that we can put toward the new product development and the exploration of new technologies. The STTAR program is aimed to attract great competitive students and this opens up an opportunity for new technological perspectives that maximize our potential for success.

New interns, like **Avery Jorgesen and Zane Hansel** (pictured right) (both NDSU), provide extra sets of hands that help complete tasks and accomplish project goals on time. From our experience, after orientation and training, highly motivated students show great professional performance without or with minimal supervision.

Converserly, new interns get an opportunity to learn and gain hands-on experience in their desired field. The STTAR internship program benefits the

interns' future employment, as employers are much more likely to hire graduates with an internship experience over students who do not have that experience.

STTAR intern Avery Jorgensen working at Renuvix.

Q. During their internship what will the students be working on?

A. Research Scientist Interns at Renuvix will work on the synthesis and characterization of new products from agriculturally derived raw materials for application in surface coatings. The major focus of their research and development will be on the controlled biodegradability for polymers, biobased water-barrier coatings, product development, and scale-up tasks. Interns will be trained to perform laboratory syntheses for new developmental products and use analytical tools to monitor the product quality; such as: the American Society of Testing Materials (ASTM) methods and specific tools (Nuclear Magnetic Resonance-spectroscopy, Fourier-tramsform infrared-spectroscopy, Differential Scanning Calorimetry, etc). Research data obtained will be analyzed and presented/reported using Microsoft Office software Excel, Word, PowerPoint.

Q. Have you partnered with the ND EPSCoR STTAR program before (if no, how did you hear about it)? What are the benefits of this partnership?

A. Yes, Renuvix has partnered with the ND EPSCoR STTAR program in the past. Students joining Renuvix as STTAR summer interns became interested in pursuing advanced degrees in the Coatings and Polymeric Materials program at NDSU.

Subsidiary of Federal Signal Corporation

Q. Tell us about your company.

A. We are a dump body bed and trailer hoist manufacturer in Rugby, ND. We employ approximately 110 people.

Q. What are the benefits of having STTAR interns (to your company and the student)?

A. Rugby Manufacturing is currently working on a large capital investment project that contains numerous electrical mechanical equipment components, which will assist us in production and quality improvement. Having an intern in the electrical field to help with the setup has already proved beneficial. Also, life testing on final dump body product which benefits us on the durability of current and new designs. From the student's perspective, **Noah Kraft** (University of Mary) is excited about having this hands-on experience. He also likes to be able to be a part of the troubleshooting and dealing with problems that can come up in a project, since you don't get that type of experience in the classroom.

STTAR intern Noah Kraft working out on the floor.

Q. During their internship what will the students be working on?

A. Interns troubleshoot and wire various industrial tests on production equipment that contains

computers, servo control, and programmable logic controller (PLC) electronics. Noah will also setup and run various test equipment that uses electrical hydraulic controls. Thereby gaining an understanding of various industrial process equipment that pertains to electrical engineering, examples of cutting, bending, cleaning, painting, and assembly of truck bodies. Noah will also be updating current prints and working with the creation of CAD models and drawings.

Q. Have you partnered with the ND EPSCoR STTAR program before (if no, how did you hear about it)? What are the benefits of this partnership?

A. Yes, back in 2015.

ND EPSCoR brings STEM to families at home this summer

This summer, the ND EPSCoR State Office is bringing fun STEM projects to families at home via our YouTube channel. Finding engaging STEM projects for elementary students that families can facilitate is not always easy. The STEM Activities series is a video-based series that makes it easy to find simple and fun projects for young students. They help to teach important critical thinking skills and potentially spark a lifetime interest in STEM.

Click on the photo above to watch the first video in the series, Strawberry DNA Extraction. Click here to get a full shopping list of the supplies you'll need to complete the activity along with us.

Click on the photo in the next column to watch the second video in this series, Milk and Food Coloring. Click here to get a full shopping list of the supplies you'll need, there's even an science art component!

Subscribe to our YouTube channel for more enjoyable and engaging STEM activities for families throughout the summer.

Virtual NATURE program holds opening ceremony

The ND EPSCoR State Office, in a collaboration with tribal colleges and universities across North Dakota, hosted an opening ceremony on Monday June 7th for the online University Summer Camp for American Indian undergraduate students to engage in STEM enrichment during the COVID-19 pandemic.

Scott Hanson, ND EPSCoR TCU (tribal college/university) Liaison and Nurturing American Tribal Undergraduate Research and Education (NATURE) Manager organized the virtual camp experience with the aid of associate camp coordinators; **Uwe Burghaus**, associate professor, Chemistry and Biochemistry at NDSU and **Justin Berg**, associate professor, Sociology at UND.

Every June, the ND EPSCoR State Office hosts its NATURE University Summer camp on the UND and NDSU campuses for American Indian TCU students. Typically, during this camp, participants tour the NDSU and UND campuses, tour STEM labs, meet research university (RU) faculty, and conduct short research projects.

Due to COVID-19, this year and last, the ND EPSCoR Sate Office is offering an online camp option for TCU participants, including virtual RU lab tours, virtual meetings with RU faculty, and online research opportunities.

During the virtual lab tours, each RU faculty researcher talked to participants about his/her area of teaching and research and showed photos and videos of their research process. During the virtual meetings, RU faculty have real-time discussions with TCU students about STEM degree opportunities, research prospects,

support programs on the NDSU and UND campuses, and STEM careers. Students also participate in online research projects.

The 2021 participants are students from two of the TCUs in ND: Nueta Hidatsa Sahnish College and Turtle Mountain Community College.

This virtual camp experience continues to strengthen the STEM pathways for American Indian youth in North Dakota despite the need for social distancing. The opening ceremony kicked off TCU Summer 2021 virtual camps, which will run through the end of July. The NATURE program also includes the TCU summer and Bridge camps. Which will be taking place throughout the summer as well as the Sunday Academy program, which runs during the academic year.

The four components of the NATURE program are a means to grow and diversify the STEM pathway within ND. American Indian students are significantly underrepresented in the STEM ecosystem in ND and throughout the country. As a North Dakota EPSCoR State Office-sponsored education outreach project, NATURE aims to improve STEM education among middle school, high school, and tribal college students, and to build a pathway for American Indians living in North Dakota who are interested in pursuing careers in STEM disciplines.

The TCU Liaison and NATURE Manager, hired in 2015, works to build mutually beneficial partnerships between the North Dakota University System institutions and the TCUs in North Dakota. NATURE builds on activities of a long-term collaboration between TCUs in North Dakota, NDSU, and UND. NATURE programming at NDSU and UND is currently funded by the ND EPSCoR State Office. NATURE programming at the TCUs is funded by the National Science Foundation EPSCoR Track-1 Cooperative Agreement ND-ACES OIA #1946202.

Read more about the NATURE camps on the ND EPSCoR website.

Gateway to Science and ND EPSCoR bring STEM workshops to classrooms

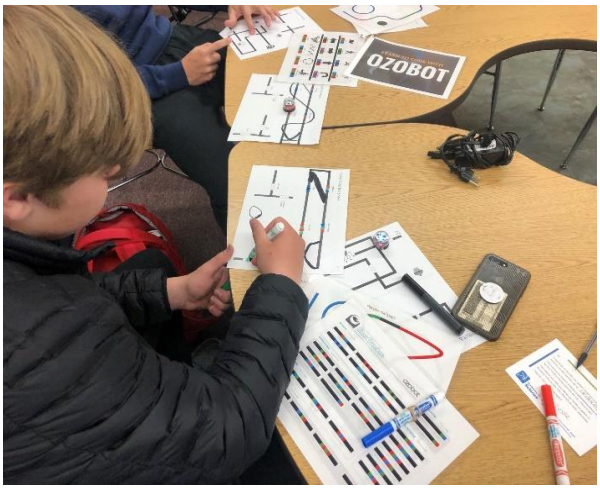
ND EPSCoR State Office partner **Gateway to Science** spent a day at the Underwood Elementary School delivering hands-on STEM workshops to 129 students in grades K-8. The students explored seven different topics chosen by their teachers from the science center's workshop menu for each grade level.

"Gateway to Science adapted its programs to meet the needs of educators and students during the pandemic," explained **Janet Rosario**, Programs Director. "We've always offered workshops on-site when groups visit the interactive gallery. When field trips were not an option for many schools this past year, we decided to bring the workshops to them. It's been so well-received and successful, we will continue to offer workshops at your school as one of our programming options. The workshops the Underwood students took part in are representative of the wide range of topics and activities available.

- **Marble Ziplines** - Fight gravity in this STEM workshop designed to challenge the best engineers. Students work as a group to build a safe yet fast zip line for a marble passenger, using math and engineering skills to safely deliver the marble to the landing zone.

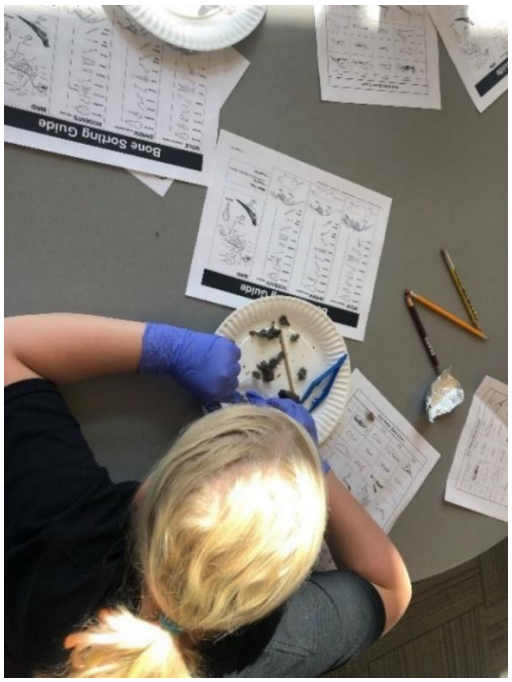
- **Forensics** - Work as forensic investigators and use techniques of forensic science to analyze evidence left behind at a crime scene. In this activity, students use deductive reasoning to evaluate fingerprints, chromatography, fibers, smells, liquids, and powders to determine the criminal's identity.

- **Ozobots & Coding** – Become coders. Students learn the basics of coding using Ozobot robots. Activities include coding with color and drawing a program to make the robots move.



- **littleBits & Electricity** (not pictured)- Learn how electrons flow. Students explore the basics of circuitry and electric engineering with littleBits electronic building blocks.

- **Owl Pellet Dissection** - Introductory dissection activity that helps students understand predator-prey relationships and the food cycle. Students identify an owl pellet's content, record, and analyze data.



- **Magnificent Magnets** - Explore magnetism. Students observe how magnets interact with each other, make a flying kite, a maze, and a magnet.

- **How Does It Grow?** (not pictured)- Growth is a great topic for exploring what living things need to grow and survive. Student build a window greenhouse, plant a seed, and make a chia pet to watch it grow at home.

Gateway to Science offers STEM workshops that meet North Dakota Science Standards for all K-12 grade levels. Some topics are similar and encourage the use of similar skills, but the tasks and expectations involved differ depending on the grade level of the students.

The workshops at Underwood Elementary School were made possible through the partnership between the ND EPSCoR State Office and Gateway to Science to deliver quality STEM programming throughout North Dakota.

"Gateway to Science's partnership with the ND EPSCoR State Office is invaluable to our workshop program," noted Rosario. "Grants from the ND EPSCoR State Office that assist the schools with funding to bring the hands-on STEM workshops to their classrooms make them an option for any school to consider."

Gateway to Science is North Dakota's science center. Its mission is to inspire the discovery of science through hands-on experiences. Gateway to Science fulfills its mission by operating an interactive exhibit gallery in Bismarck and by developing and delivering mobile educational outreach programs across the state through the Gateway to Science on the Go van.

In addition to on-and off-site programming, Gateway to Science offers a STEM at Home section as well as a Resource Center for families and educators on its website. Students, parents, and teachers will find

hands-on STEM activities to do at home or in the classroom, a list of recommended STEM books, and a wide variety of STEM-related websites.

Learn more by visiting the ND EPSCoR State Office's Gateway Science Partnership Page.

CIRCLES Alliance survey and interview opportunities

The ND EPSCoR State Office has joined with five other EPSCoR states (Idaho, Montana, New Mexico, South Dakota, and Wyoming) in a National Science Foundation-funded collaborative research project that forms an Alliance to connect with tribal community members within those states to gain a better understanding of each community's definition and perspective of STEM (science, technology, engineering, and mathematics). Initially, Alliance members planned to visit each tribal community, but with COVID-19 continuing, the Alliance has decided to make virtual connections. Using a common set of questions across the six-state CIRCLES (Cultivating Indigenous Research Communities for Leadership in Education and STEM) Alliance, participants input is being gathered through virtual interviews over Zoom or through an online survey with tribal community stakeholders to gain their perspective on how indigenous based STEM education is currently being incorporated or might be incorporated in the future, to support student STEM learning. To participate in an interview or survey, you must be 18 years or older.

The ND EPSCoR State Office has created a link to a 90-second video that describes these efforts. The anonymous online survey is available at this link. Additionally, ND EPSCoR is conducting individual virtual interviews. If you would prefer to participate in an individual interview, please email Scott Hanson, ND EPSCoR Tribal Colleges/Universities Liaison Manager, or call 701-231-8606.

This effort aims to foster better connections with tribal communities and support STEM educational programming. Working toward that goal, the ND EPSCoR State Office humbly requests your assistance in completing this survey or contacting us to set up a virtual interview. The CIRCLES Alliance believes this is a particularly poignant time to reflect on observations regarding indigenous based STEM education the COVID-19 pandemic has brought some new challenges into focus. Learn more about the North Dakota CIRCLES effort here.

Events and trainings

Responsible Conduct of Research (RCR)

RCR training with STEM Manager **Shireen Alemadi** is available upon request to augment initial campus or Collaborative Institutional Training Initiative (CITI) RCR trainings. Please contact Shireen Alemadi to schedule.

Activities of note

ND-ACES Materials Design Pillar Lead Named Teacher of the Year

Congratulations to **Sanku Mallik**, Professor and NDSU ND-ACES Materials Design Lead on receiving the Teacher of the Year Award in the NDSU School of Pharmacy. Congratulations Sanku!

ND-ACES Computational Approaches Pillar Researcher Awarded DEPSCoR Grant

Congratulations to **Deniz Cakir**, Assistant Professor of Physics and Astrophysics at UND and ND-ACES Computational Approaches Pillar researcher, on being awarded a $600,000 DoD Defense Established Program to Stimulate Competitive Research (DEPSCoR) grant. Congratulations Deniz!

Funding opportunities

Track-1 ND-ACES: Emerging Areas/Seed Award Request for Applications

ND EPSCoR seeks to provide emerging areas seed awards of up to $25,000 to researchers from the NSF EPSCoR RII Track-1 New Discoveries in the Advanced Interface of Computation, Engineering, and Science (ND-ACES) participating institutions in areas of emerging high impact and transformative research related to the Center for Cellular Biointerfaces in Science and Engineering (CCBSE). Information on the CCBSE can be found on the ND EPSCoR website.

Applications must be made by a researcher from Cankdeska Cikana Community College (CCCC), Dickinson State University (DSC), Mayville State University (MaSU), Minot State University (MiSU), Nueta Hidatsa Sahnish College (NHSC), North Dakota State University (NDSU), Sitting Bull College (SBC), Turtle Mountain Community College (TMCC), University of North Dakota (UND), and Valley City State University (VCSU) who is not currently associated with the 2020-2025 ND-ACES cooperative agreement or who did not receive a 2021

ND-ACES emerging seed award. Please see the Request For Applications for details.

- Application Deadline: Noon, September 1, 2021

Distributed Research Experience for Undergraduates (dREU)

This ND EPSCoR ND-ACES program gives undergraduate students – from the nine participating campuses - three Primarily Undergraduate Institutions (PUIs), one Master's College/University (MCU), three Tribal Colleges/Universities (TCUs) located in ND, or the two Research Universities (RUs) – the opportunity to work in the CCBSE alongside NSF Track-1 faculty researchers on their cutting-edge research projects. For more information, see the Request for Applications. Please be aware of the following application deadlines:

- Academic Year 2021 Application Deadline: Noon, July 29, 2021
- Full Year 2021 – 2022 Application Deadline: Noon, July 29, 2021

Doctoral STEM Teaching Assistantship ND-ACES (NDSU/UND only)

ND EPSCoR ND-ACES Doctoral STEM Teaching Assistantship program is designed to increase NDSU/UND doctoral students' understanding of and experience in STEM teaching and research involving undergraduate students. These semester-long placements (Fall 2021 or Spring 2022) at a Tribal College/University (TCU), Primarily Undergraduate Institution (PUI), or Master's College/University (MCU) in North Dakota involve teaching and research duties under the direction of faculty research participants in ND EPSCoR's National Science Foundation (NSF)-funded New Discoveries in the Advanced Interface of Computation, Engineering, and Science (ND-ACES) project in the areas of materials design, cellular systems, or computational approaches. Click here for more information about ND EPSCoR's ND-ACES project. Click here for a list of ND-ACES faculty researchers at the TCUs, PUIs, and MCU. For more information, see the Request For Applications. Please be aware of the following application deadlines:

- Fall 2021 Application Deadline: Noon, July 15, 2021
- Spring 2021 – 2022 Application Deadline: Noon, July 29, 2021

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

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

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 Collaborative Agreements
  - ND-ACES – New Discoveries in the Advanced Interface of Computation, Engineering, and Science (NSF OIA #1946202) and
  - INSPIRE-ND – Innovative and Strategic Program Initiatives for Research and Education-North Dakota (NSF OIA #1355466)

- NSF Collaborative Research
  - CIRCLES Alliance - Cultivating Indigenous Research Communities for Leadership in Education and STEM Alliance (NSF OIA #2038196)
- ND EPSCoR State Office
  - STEM programing identified within the newsletter and state match funding for ND-ACES and INSPIRE-ND

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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.

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