

August 31, 2023

From the Executive Director

Hello everyone,

This month, we had the opportunity to bring together EPSCoR participants from across the state. We spent a full day immersed in presentations and student poster displays as we get ready for an upcoming visit from the National Science Foundation. In the fourth year of NSF EPSCoR RII Track 1 projects, NSF program officers and subject matter experts travel to jurisdictions like North Dakota to learn about the work we are doing firsthand and to evaluate our program. We will be hosting a panel of nine individuals in September, who will spend three days interacting with project personnel and students from our 10 participating institutions. We have been working hard to showcase the amazing research, outreach, and educational opportunities this award afforded to North Dakota.



A heartfelt thank you goes to Dr. John Warford, who has been the Chair of ND EPSCoR State Steering Committee from August 2021 through June 2023. As we bid farewell to Dr. Warford, we extend a warm welcome to Mr. Curtis Biller. Appointed by Gov. Burgum to the State Board of Higher Education, Mr. Biller took over as the Chair of the ND EPSCoR State Steering Committee on July 1.

We're also excited to introduce Jenni Hitt, who has joined our office as ND EPSCoR's new Administrative Coordinator.

Best regards,

Jolynne

Jolynne Tschetter
Executive Director
ND EPSCoR

New research funding establishes North Dakota STEM competitiveness

NSF selects partnership led by NDSU as finalist for potentially \$160 million over 10 years

The regional collaborative partnership known as FARMS (Northern Plains AgTech Engine for Food systems Adapted for Resiliency and Maximized Security) has reached the final stage of a nationwide competition that will provide winning teams with \$160 million funding over 10 years. [FARMS is one of sixteen projects selected as finalists.](#)

The National Science Foundation (NSF) Engines program aims to empower all regions of the country, including the Midwest, to capitalize on their strengths. A multi-faceted program, FARMS seeks to build upon North Dakota's reputation as a leader in AgTech and will deliver market-driven innovative research, education, workforce development, and DEIA (diversity, equity, inclusion, and accessibility) programs. [Read more.](#)



NSF EPSCoR issues 4-year, \$4 million grant to UND and partner institutions to advance tribal energy sovereignty

Tribal communities often consist of rural, spread-out populations with distributed, smaller-scale power, heat and fuel energy systems, which are less reliable and may be less resilient to anticipated shifts in weather patterns and severity due to climate change.



To assist in addressing this issue and to strengthen the research infrastructure of the North Dakota and Kansas EPSCoR jurisdictions, UND, in collaboration with North Dakota State University and Kansas State University, and with participation by Haskell Indian Nations University, Turtle Mountain Community College, Nueta Hidatsa Sahnish College, and the Tribal Nations Research Group, will work to develop technologies and methods to provide sustainable, reliable and efficient engineering infrastructures and solutions for tribal energy sovereignty. [Read more.](#)

Jenni Hitt joins the ND EPSCoR office team

Jenni Hitt has joined ND EPSCoR as Administrative Coordinator. Jenni has a breadth of experience in both the public and private sectors and will be an asset to the entire jurisdiction.

I completed my associates degree through Casper College in Casper, Wyoming. Since then, I had the opportunity to buy a foreclosure house and complete renovations. I learned so much with that project and even did most of the work myself, with help from my Dad, friends and boyfriend. It's been a fun and interesting way to test myself and grow as a person just in time to start a new project in Moorhead.

The position at ND EPSCoR appealed to me with the busy nature of the program, the ability to mentor under a great team, and the long-term opportunities NDSU offers employees. I am excited to learn more about this program, give back to the community, and help to achieve goals within the EPSCoR department and beyond.



Welcome aboard Jenni!

ND EPSCoR welcomes new State Steering Committee Chair

Gov. Doug Burgum has appointed Curtis Biller of Fargo to a four-year term on the North Dakota State Board of Higher Education (SBHE). The appointment brings with it voting membership on, and chairmanship of, the ND EPSCoR State Steering Committee.

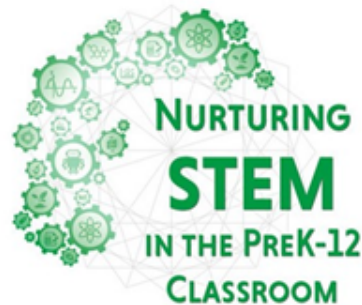
The ND EPSCoR State Steering Committee is an advisory entity, providing guidance to ND EPSCoR and EPSCoR-like programs to ensure that programs are consistent with the long-term science and technology research and development goals of North Dakota.



Curtis Biller

“I am excited to work with the EPSCoR team and the exciting initiatives to promote research and STEM education throughout the state,” says Biller. “ND has such a great opportunity to be a leader, whether it be in agriculture, energy, or rare earth minerals to name a few, providing both research and paths to career development.”

ND EPSCoR thanks outgoing State Committee Chair Dr. John Warford for his enthusiasm for science and expert guidance as a Committee member.



ND-ACES participants attend STEM event for PreK-12 teachers

The Office of Teacher Recruitment & Retention at the UND College of Education and Human Development recently hosted the Nurturing STEM in the PreK-12 conference to strengthen STEM curricula in North Dakota. ND EPSCoR was a conference sponsor.

Ryan Summers, Ph.D., Associate Professor of Science Education and New Discoveries in the Advanced Interface of Computation, Engineering, and Science (ND-ACES) Education Workforce and Development (EWD) team member considers the event to be the first of its kind. More than 150 teachers from across North Dakota registered for the opportunity and were introduced to the ND EPSCoR STEM education portal.

Participants were introduced to the [ND EPSCoR STEM education portal](#). The portal provides STEM lesson plans based on a wide variety of scientific research that is happening at universities and colleges all across North Dakota. Many of the lesson plans were created by North Dakota teachers

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Over the past year graduate student scientists and ND-ACES project participants Yingfen Wu, Di Sun and Yujie Xue have partnered with other students to build bioscience modules for middle schools and attended the conference.

Graduate student and ND-ACES EWD team member Jill Baird attended the conference as well.



ND EPSCoR Social Media



Science and research evolve nonstop in North Dakota and ND EPSCoR offers more than News and Notes get the news out. Visiting ND EPSCoR social media platforms will keep you in the loop. Click these images get and stay connected.



Have you missed an issue News and Notes?

Find it at the ND EPSCoR website!



Rural Student Teaching Experience (RSTE)

Participants each receive a stipend of up to \$10,000 and receive mentorship while in the program

APPLY NOW!

Deadline: September 29, 2023 by noon

[Click here for the application](#)

Questions about the program or application can be directed to ND-ACES RSTE Coordinator Ryan Summers ryan.summers@und.edu

The STTARS are out!

The STTAR (Students in Technology Transfer and Research program) provides students (college juniors through graduate students) studying STEM (science, technology, engineering, and mathematics) the opportunity to use their academic training and experience to address the most challenging science and technology-based problems facing North Dakota companies.

Moore Engineering, Inc., ComDel Innovation, Marvin [participate in STTAR](#). Let's take a look at what these businesses have to say.



Tell us about Moore Engineering, Inc. (MEI)

Since 1960, Moore Engineering has completed more than 22,000 civil and environmental engineering projects throughout North Dakota and Minnesota, advancing the region's water, municipal, campus and transportation infrastructure. www.mooreengineeringinc.com

Who were MEI's STTAR interns this summer?

- **Weston Mitchell**, Civil Engineering, NDSU
- **Kathryn Quenette**, Civil Engineering, NDSU
- **Tyler Petron**, Civil Engineering, NDSU

How do STTAR interns benefit from working at MEI?

Kathryn worked on a GPS inspection project in Mayville, ND that will clarify the location and conditions of utilities. GPS is always evolving so this project helps MEI understand what the GPS/ArcGIS can do for other cities. She also saw the office side of the field and what her future can potentially look like. Her STTAR internship was an opportunity that she says will make her post-college plans easier to navigate.



Kathryn
Quenette



Weston Mitchell

Weston says the STTAR internship was his opportunity to see the construction side of projects and doing things like communicating with contractors and being on the lookout for any problems arising in the field. As a technician at MEI's Lake Traverse project, Weston gained real-world experience in water resources engineering. He says it is also important for MEI to have people in the field to monitor the contractor and ensure the contractor an easy fast point of contact if issues arise.

Tyler says the STTAR internship enabled him to interact with contractors and see how billing and bidding works as well as the construction process. He also says seeing the plans and understanding them was also very beneficial to him.



Tyler Petron

How does MEI benefit from hiring STTAR interns?

At Moore Engineering, our goal is to provide students with an opportunity to translate the knowledge they are gaining through their coursework into professional, hands-on experience while contributing to the success of the organization. We are dedicated to educating and cultivating the future generation of engineers, scientists, and leaders so we strive to support students in continuing to build their knowledge and skills each summer.

Has MEI previously partnered with STTAR?

We first partnered with ND EPSCoR in 2022 and hosted three interns one of which transitioned into a fulltime Graduate Engineer role after graduating in 2023. We learned about the program through word-of-mouh. The CEO of our parent company worked in an organization that partnered with ND EPSCoR.



Tell us about Marvin

Marvin a fourth-generation family-owned business based in Warroad, MN and employing over 7,000 workers. Their product lineup includes tailored window and door solutions for builders, architects and homeowners. Marvin products are distributed worldwide through independent dealers. Marvin's reputation as an industry pioneer is upheld through innovative thinking and a commitment to enhancing lifestyles. www.marvin.com

Who were Marvin's STTAR interns this summer?

- **Natalie Fischer**, Mechanical Engineering, NDSU
- **Matthew Myers**, Mechanical Engineering, NDSU
- **Justin Kettelson**, Mechanical Engineering, NDSU



Natalie Fischer



Matthew Myers



Justin Kettelson

How do STTAR interns benefit from working at Marvin?

Natalie's work focused on refining a balance tube calculator to ensure correct tube lengths for smooth sash movement and latch prevention. She also enhanced the calculator's ability to select suitable strength tubes based on sash weight, ensuring easy operation without falling or springing.

Mathew's role centered around testing material properties. He focused on assessing sealant adhesion under different conditions like heating, aging and deep cleaning. He also assisted designing and constructing small projects and conducting unit testing.

Justin modeled, prototyped and tested new parts for windows. Justin and his team reviewed the new parts and submitted their reviews to engineers for feedback. He also participated in 3D printing and testing prototype parts.

How does Marvin benefit from STTAR interns?

The Marvin team integrates STTAR interns into projects allowing the students to not only operate at a high-level, but to also support the research being done by those teams. STTAR allows us to grow as a company and make a difference for our customers as they utilize products in their own homes.

Has Marvin previously partnered with STTAR?

This is Marvin's second year participating with STTAR and there is potential to make job offers when the students graduate.



Tell us about ComDel Innovation.

We are a contract manufacturing company that began operations in Wahpeton, ND. The site was founded in 1977 as a 3M manufacturing facility. From design, fabrication of tooling and manufacturing equipment, packaging, and distribution, ComDel provides an array of product support and solutions for medical, commercial, and agricultural customers.

www.comdelinnovation.com

Who were ComDel's STTAR interns this summer?

- **Alex Groban**, Mechanical Engineering, NDSU
- **Joe Dignan**, Mechanical Engineering, NDSU
- **Ezra Hanse**, Mechanical Engineering, UND

How do STTAR interns benefit from working at ComDel?

Joe worked on numerous automation projects throughout the summer, these projects allowed him to perform research and design work for numerous different projects. He was also able to get the opportunity to learn how to program and use a UR robot for his project.



Joe Dignan

Throughout many projects 3D Modeling was performed in Solidworks, Joe was also able to learn how to use Solidworks to make sheet metal parts. Throughout the projects, he was able to see how a project progresses from researching and prototyping solutions to the problem through the design steps until the final design is reached and fabricated.

Ezra worked on improving current assembly automation cells, designing and programming new automation cells, and implementing and validating new previously designed cells. He has learned how to write code for UR robots and how to modify Fanuc robot code. By working on these tasks, Ezra developed a wide range of skills from designing in SolidWorks to basic machining, and from the communication of ideas to best implementation practices.



Ezra Hanse and Joe Dignan

Alex worked on new product development activities, including developing and documenting a molding process for a medical component. He has also developed design skills by using Solidworks to create test fixtures. Plus, Alex learned how to operate injection molding presses, adjust machine parameters to address visual and dimensional issues, analyze data using software, and create effective documentation of his work. These experiences have helped Alex experience real-world applications of concepts learned in class.

How does ComDel benefit from hiring STTAR interns?

Being able to cost-share through STTAR is hugely impactful for the company. When the students work on-site, they experience the manufacturing systems that are used to design, define, improve and analyze products, moving from the theory of the classroom into real-world applications on a diverse mix of products. The other benefit of STTAR is the fresh eyes to look at the operation and find better ways to conduct business based on their studies and research.

Has ComDel Innovation previously partnered with STTAR?

ComDel has utilized the STTAR program for several years. Many of our recent full-time engineering hires were STTAR participants.

Meet the researcher

Justin Walden, Ph.D.

NDSU Department of Communication

What are your primary research and scholarly interests?

I primarily research workplace communication as it relates to employee commitment, job engagement, and employees' understanding of work-life boundaries. My teaching focuses on strategic communication and public relations.

How does this tie into the work you are doing with ND-ACES?

I draw on my research and prior industry experience to guide the ND-ACES communication strategy. I am also developing a research project about STEM educators' understanding of their roles in the STEM field and how peer and occupational-focused communication shapes this understanding.

Where are you from and where did you pursue your education?

Upstate New York. I have a bachelor's degree from the University at Albany (BA), a master's from Syracuse University, and a Ph.D. in Communications from Penn State University.

What excites you about ND EPSCoR?

The opportunities to help transform North Dakota's economy. Having grown up in a Rust Belt city in New York, I know how local economies can struggle to modernize and to adapt to changing markets. We have the opportunity with ND EPSCoR to make an impact on our state—and eventually help patients through our scientists' discoveries.

What motivates you?

Mentoring students in and out of the classroom. I take a lot of pride in teaching and giving my students challenging yet fair opportunities in my classes. Also, I am excited to work on the ND-ACES project because there could be a host of long-term benefits to our state's residents.

If you could time travel, where would you go?

Boston, Mass., May 10, 1970 to see Bobby Orr's flying goal to win that year's Stanley Cup.

If you could have coffee / tea with anyone, who would it be?

Robert Plant. I saw him in a downtown Fargo coffee shop a few years ago and was too starstruck to approach him. I want a do-over on that moment.

What was your first job?

Washing dishes in an Italian restaurant at age 15.

What does your very best day include?

Friends and family gathering in State College, PA for my graduation from Penn State. My wife organized a mini-family reunion for me—and it was a day I won't ever forget.

What's your favorite quote?

I don't have one. Most quotes floating around my head are just lyrics from bands like Rush and Led Zeppelin.

Meet the researcher

Brent Voels, Ph.D.

**Department of Science
Cankdeska Cikana Community College**

What are your primary research and scholarly interests?

My current research focuses on elucidating the microbiomes of pollinators, tracking population dynamics of mosquitoes, and collecting microclimate data on Spirit Lake Nation. I do pedagogy research in all the courses that I teach and am involved in NATURE Activities.

How does this tie into the work you are doing with ND-ACES?

Right now, my focus is on the NATURE activities associated with ND-ACES.

Where are you from and where did you pursue your education?

I grew up in Fargo-Moorhead area where I obtained bachelor's degrees in biology and chemistry from Minnesota State University of Moorhead. I received my Ph.D. in Biochemistry and Molecular Biology from the University of North Dakota.

What excites you about ND EPSCoR?

It's interesting to see the intersection of 3 different but interconnected research tracks and how different skill sets can work together to conduct great research.

What motivates you?

I want to help the students who attend CCCC obtain a high-quality college experience/education that includes the opportunity to conduct research in an area of interest and importance to them. My hope is that one day former students will come back to CCCC to help expand the research that is conducted here.

If you could time travel, where would you go?

Just back in time long enough to get the right lotto numbers, no need to risk disrupting the time stream too much.

If you could have coffee / tea with anyone, who would it be?

Noam Chomsky

What was your first job?

My first job was working for Interstate Battery.

What does your very best day include?

A long hike/dog walk followed up with trying out a new restaurant.

What's your favorite quote?

"It always seems impossible until it's done." Nelson Mandela

Guess what,



OPEN POSITIONS

Project Manager

Open until filled

Commercialization Outreach Coordinator

Open until filled

Let your Bright Spots SHINE!

The public, the STEM community, and others want to know and understand the value of STEM, and ND EPSCoR wants to help the story be told.

When you say, "Wow!", others want to know.

Please send information about events, achievements, outcomes and ideas so ND EPSCoR can help you get the word out.

[Submit a story>>](#)

Funding opportunities / Training sessions

- [NEH Dynamic Language Infrastructure - Documenting Endangered Language Fellowships](#)
- [NIH: Interventions to Expand Cancer Screening and Preventative Services to ADVANCE Health in Populations that Experience Health Disparities](#)
- [NIH: Maximizing Investigators' Research Award for Early-Stage Investigators](#)
- [NIH: Neuroscience Development for Advancing the Careers of a Diverse Research Workforce - **LIMITED**](#)
- [NSF: Division of Chemistry - Disciplinary Research Programs](#)
- [USDA: AFRI - Education and Workforce Development](#)
- [EPA: Community-Based Research for Effective Programs, Policies, and Decisions to Mitigate Cumulative Health Impacts and Environmental Health Disparities in Underserved Communities](#)

Have questions, ideas, or suggestions for News and Notes?

Contact Us

