



Established Program to  
Stimulate Competitive Research

## *News & Notes*

*Providing leadership and coordination to broaden and diversify North Dakota's science, technology, engineering, and mathematics (STEM) workforce pathway and growing statewide STEM research and competitiveness at participating institutions of higher education.*

January 2024

### From the Executive Director

Hello and Happy New Year!!

We are planning for another exciting year in the ND EPSCoR office supporting STEM education and activities across the state. Events are being planned throughout the year to support STEM education and activities in North Dakota. Information about upcoming events will be included as part of the new STEM Workshops, Webinars, and Events section below and on the [News and Events](#) section of the [ND EPSCoR](#) webpage.

To celebrate STEM accomplishments in North Dakota, we have added a ND STEM Highlights section. Please share your STEM news with us so we can help spread the good news and celebrate with you.

Don't forget to Save the Date: The Annual State Conference is moving to the fall and will be held on November 21 at the Alerus Center in Grand Forks.



*Jolynne*

### **Blessings for President Vermillion's Retirement from Sitting Bull College**



Dr. Laurel Vermillion, Lakḥóta name Oyate Wanyanka Pi Win, has retired as the President of [Sitting Bull College](#) (SBC) after serving for nearly two decades. As we bid farewell to this remarkable leader, let us take a moment to reflect on her legacy.

We recognize her visionary leadership, significant achievements, and unwavering commitment to education and the preservation of Lakḥóta and Dakḥóta culture, language, and traditions. Under her guidance, SBC has

achieved tremendous growth and important milestones. We express our heartfelt appreciation to President Vermillion for her invaluable contributions that have positively impacted countless lives within the Standing Rock Nation and beyond. Although she will be dearly missed, we are excited to welcome a new era of leadership under incoming President Dr. Tomi Kay Phillips, Lakḥóta name Cante Wakan Win (Sacred Heart Woman). We look forward to building on the foundation set by President Vermillion and other past presidents. This is a moment of reflection and hope, and we sincerely thank President Vermillion for all she has done to help make SBC what it is today and influence where the future leads.

Her commitment to Sitting Bull College, including students, faculty, and staff, is evident in her reflection of her time at SBC.

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*As I complete 18 years of presidency for Sitting Bull College, my heart is happy and content with my decision to retire. SBC celebrated 50 years in 2023. The last 50 years have included exciting and amazing achievements. Our beautiful campus with state-of-the-art classrooms and labs are now in place for our students. Also, in 2023, the Higher Learning Commission (HLC) awarded another ten years of accreditation for Sitting Bull College. These and many more achievements are the result of a strong and effective faculty and staff team, a supportive Board of Trustees, and caring and effective administrators. This is our SBC Family.*

*With our new president, Dr. Tomi Kay Phillips, at the helm, I am confident that SBC will continue to strive for excellence and will always be guided by our beautiful Lakḥóta and Dakḥóta culture and traditions.*

*~Dr. L. Vermillion*

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Dr. Vermillion looks forward to supporting tribal colleges and universities in advisory capacities. In addition, she has plans post-retirement to support K-12 schools and teachers on Standing Rock, focusing on mentorship and cultural awareness. She aims to enhance understanding of the Lakḥóta / Dakḥóta way of life among educators.

The staff of the ND EPSCoR Office along with all of the participants in the NSF EPSCoR Track-1 ND-ACES project wish President Vermillion many blessings as she embarks on this new journey.



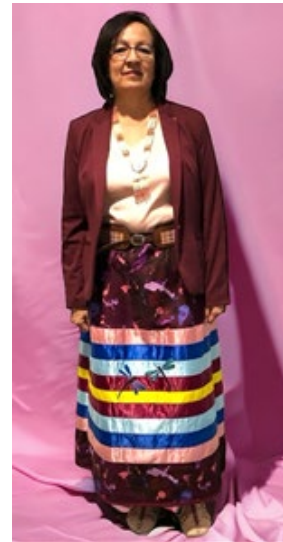
## Sitting Bull College Welcomes President Phillips

[Sitting Bull College](#) (SBC) is a Tribal College located on the Standing Rock Nation. Standing Rock uniquely covers areas in southern North Dakota and northern South Dakota and spans about 2,275,000 acres. The region is known for ranching and dryland farming. SBC is committed to providing excellence in academic, career, and technical education while keeping up with current and future workforce needs. The college draws inspiration from its namesake, Chief Sitting Bull's vision, and focuses on building intellectual capital to drive economic and social development rooted in the Lakḥóta / Dakhóta culture and values.

Sitting Bull College, formerly known as Standing Rock Community College, was established on September 21, 1973, and is one of the nation's first tribal colleges. SBC's mission revolves around students and their communities, showcasing a dedication to education, overall growth, and the preservation of the Lakḥóta / Dakhóta culture. The college is authorized to grant Certificate through Master's levels degrees. SBC is accredited by the Higher Learning Commission (HLC), ND Career and Technical Education, and is a member of the American Indian Higher Education Consortium (AIHEC) and the North Dakota Tribal College System (NDTCS).

SBC is currently celebrating its 50th Anniversary as an education institution serving the higher education needs of the Standing Rock Nation. SBC is also welcoming incoming President Dr. Tomi Kay Phillips, a US Army Veteran, Bush Fellow, and life long educator.

President Phillips, Lakḥóta name Cante Wakan Win (Sacred Heart Woman), has spent the majority of her life residing on Standing Rock. Her teaching background spans various settings, including inner-city schools, rural public schools, and tribal schools. In terms of administration, she has worked in public school systems, the Bureau of Indian Education (BIE) and Tribal Grant school systems, as well as a private school on Standing Rock. President Phillips aims to be a positive force for change, advocating for education at Sitting Bull College. She wants to inspire the local communities, particularly the youth, to see success as attainable in their chosen paths.



After nearly 30 years as a teacher and school administrator, Dr. Phillips said she fully

understands the importance of how education can offer more choices for not only children but the citizens of Standing Rock. She plans to be a voice for education at Sitting Bull College for the Standing Rock Nation. She wants the tribe's children to see people who look like them, inspiring them to do well in whatever they choose in life.

The staff of the ND EPSCoR Office, along with all of the participants in the NSF EPSCoR Track-1 ND-ACES project, welcome President Phillips with a good heart and a handshake. We are excited about our future growth with SBC and remain dedicated to achieving equitable opportunities and access for all. We wish you all the best in your new leadership role, President Phillips!



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## ND STEM Highlights

[Minot State's MIS program ranked No. 1 by Intelligent.com](#)

[STEM Academy for Native American Students Expanded Statewide](#) - Valley City State University

[Mayville State Collaborating with ND DPI and U.S. Department of Labor to Impact Teacher](#)

[Workforce in ND](#)

[AISES leaders reflect on visit to the Canadian Human Rights Museum](#) - Turtle Mountain Community College

[Nueta Hidatsa Sahnish College receives grant](#)

[UND receives \\$7.6 million Army contract for revolutionary sanitation technology](#)

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## North Dakota wins up to \$160 million in federal funding to support innovation, jobs, and economic growth in agriculture technology (AgTech)

Recognized as an international leader in agriculture technology (AgTech), a groundbreaking coalition of five North Dakota entities today was named as an award winner for up to \$15 million over the next two years with potential to receive up to \$160 million over 10 years as part of the U.S. National Science Foundation (NSF) Regional Innovation Engines program. The competitive award will fund programs that help solve food insecurity and expand economic opportunities for not only more people and organizations, but for increasing the growth of existing crops and introducing new crops to market. The award highlights the state's talent pool in AgTech and recognizes the unique collaborative partnership that came together to show how North Dakota feeds the world.

[Learn more](#)



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## STTAR Funding Available Apply Now

The Students in Technology Transfer and Research (STTAR) program provides upper-division students (i.e. juniors through graduate students) in science, technology, engineering, and mathematics with an opportunity to use their academic training and experience to address

challenging science and technology-based problems faced by North Dakota companies. The primary emphasis of STTAR is real-life experiences in research, development and/or technology transfer.

For more information about this program and how to apply for funds to support a STTAR intern at your business, visit the [STTAR program page](https://www.ndenscor.ndsu.edu/programs/sttar/).



## Meet the Researcher



**Jiha Kim**  
**Associate Professor of Biological Sciences**  
**North Dakota State University**

**Member of the NSF EPSCoR Track-1: New Discoveries in the Advanced Interface of Computation, Engineering, and Science (ND-ACES)**

### **What are your primary research and scholarly interests?**

I am primarily interested in how things/different cells communicate or work together inside the body. It still gives me goosebumps whenever I think about how everything that happens in the body is carefully designed, precisely executed, and regulated. I witnessed a power of a master regulator (transcription factor) in the development of the eyes and brain during my Ph.D. and what happens if this master regulator can't regulate things. It was a breath-taking experience to learn a pair of molecules (ligand-receptor) can guide the development of the most complicated body

systems, vascular systems, and nervous systems during Postdoc. Then I realized that all the knowledge I gained from this training could be utilized to understand the tumor and unwanted additional tissue growth. Just like any other organs in our body, tumors also develop as a complex mass composed of several different cell types that communicate with each other. As I continue my scientific journey at NDSU, our team is focused on understanding the complexity of the tumors.

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

My team is part of a cellular pillar in ND-ACES and focuses on establishing a multi-cellular 3D bone metastatic tumor microenvironment using patient-derived cancer cell lines. It requires a deep understanding of cell-cell communication and molecular network to re-create the in vivo environment. Therefore, my research interest is perfectly aligned with the goal of the ND-ACES project, and we are very excited to be able to contribute to it.

### **Where are you from, and where did you pursue your education?**

I am from South Korea, where I received B.S. and M.S. degrees in molecular biology. Then I moved to Georgia, U.S.A, and studied cellular biology at the University of Georgia for my Ph.D. My research was focused on the developmental regulation of the central nervous system, which led me to join the Neuroscience program at Harvard Medical School for my Postdoc, where I studied how the nervous system and vascular systems are co-develop by the common guidance molecules. Then I worked as an instructor at MD Anderson Cancer Center, Texas, to put everything together to understand cancer.

### **What excites you about ND-ACES?**

The opportunities and potentials. There are many opportunities for collaboration, participation, education, and learning across the entire state and multiple disciplines. These are very rare opportunities for students and faculty to learn and think outside the box.

It has the potential to invent something that can help cancer patients and cultivate the next-generation workforce and working environment for many different areas.

### **What motivates you?**

A little success! Especially the one that was the least expected!

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

With myself. I would like to sit down and quietly think about myself.

### **What was your first job?**

I worked at a restaurant making/serving chicken dishes (Ginseng chicken soup (Samgyetang)). This is a traditional Korean chicken soup that is boiling hot and served in a hot stone bowl, and you are supposed to eat this on the hottest day of the year!

### **What does your very best day include?**

On a day with nothing to worry about urgently and no emails to reply to (probably impossible!), I get my workout done and then eat good foods/drinks with friends.

Sorry! No kids allowed in this dream day!

### **What's your favorite quote?**

If it doesn't challenge you, it doesn't change you." ~Fred DeVito

# STEM Workshops, Webinars, and Events

## NCGR/NM-INBRE Pangenomics Workshop

- Applications due February 5, 2024
- Workshop held virtually February 12 - 16, 2024
- [Application link](#)

## Online Public Engagement: Best practices for scientists on social media

- Featuring Dr. Nicole Lee from Arizona State University
- Webinar will be held from 12:00 - 1:30 PM on February 2, 2024
- [Additional information](#) and [registration](#) links available.
- Information on how to access a recording of the webinar will be available [online](#) after the event.
- Sponsored by NSF EPSCoR Track-1: ND-ACES

## Technology, Innovation and Partnerships (TIP) Programs

- Webinar: Feb 12, 2024 @ 1:00 PM - [Register](#)

## Networking Technology and Systems (NeTS)

- Webinar: Feb 13, 2024 @ 1:00 PM - [Register](#)

## Quantum-Enabled Technologies - ERVA Visioning Event

- March 19 - 20, 2024 @ University of Arizona (Tucson)  
[More information](#)

## Broader Impacts Workshop

- Presentations by [ARIS \(Center for Advancing Research Impact in Society\)](#)
- April 17, 2024 from 8:30 AM to 4:00 PM @ Minot State University's Conference Center  
[More information](#)
- [Register](#)
- Sponsored by NSF EPSCoR Track-1: ND-ACES

## ND Science Olympiad

- ND State Tournament at NDSU - April 20, 2024
  - For more information, visit the [ND Science Olympiad webpage](#)
  - Regional Events
    - Bismarck State College - Thursday, March 28, 2024
    - Dickinson State University - Thursday, March 14, 2024
    - Minot State University - Monday, March 4, 2024
    - Dakota College at Bottineau - Thursday, April 4, 2024
    - Valley City State University - Thursday, March 28, 2024
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## Funding Opportunities\*

### Department of Health and Human Services

- [Cancer Tissue Engineering Collaborative: Enabling Biomimetic Tissue-Engineered Technologies for Cancer Research](#)
- Basic Research in Cancer Health Disparities ([R21](#), [R01](#))
- [Innovative Research in Cancer Nanotechnology](#)
- [Field Initiated Projects Program: Minority-Serving Institution \(MSI\) - Development](#)

### Department of Defense

- [Defense Sciences Office \(DSO\) Office-wide BAA \(DARPA\)](#)

### Department of Energy

- [Data Reduction for Science](#)
- [FY 2024 Research and Development for Next Generation Nuclear Physics Accelerator Facilities](#)
- [Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-003298. Clean Energy Technology Deployment on Tribal Lands - 2024](#)

### National Science Foundation

- [Enabling Partnerships to Increase Innovation Capacity](#)
- [Ideas Lab: Personalized Engineering Learning](#)
- [Algorithms for Threat Detection](#)
- [FY 2024 EPSCoR Research Fellows \(NSF 24-528\)](#) Replaces: NSF 23-535

### United States Department of Agriculture

- [Agricultural Genome to Phenome Initiative](#)

*\*These funding opportunities may contain Limited Submission solicitations. Please follow your institutions guidelines and processes for Limited Submission solicitations.*

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## ND EPSCoR wants to hear your news

Given the opportunity to communicate with both the public and internally within our own program, the ND EPSCoR team invites you to provide content that can be used in stories, social media, press releases, and ND EPSCoR News and Notes.

Send us your news, events, accomplishments and most importantly, your BRIGHT SPOTS!

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



Contact Us



### 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.