# CIRCLES ALLIANCE Newsletter

## Fall 2025

*Quarterly Notes from the Cultivating Indigenous Research Communities for Leadership in Education and STEM (CIRCLES) Alliance*

## CIRCLES Alliance Gathers in North Dakota

The CIRCLES Alliance convened from October 23-25 in Minot, North Dakota. The gathering created space for engaging with the project advisory board, cross-pollinating ideas and approaches across states, reflecting with the evaluation team, and exploring innovative CIRCLES activities and partnerships underway in North Dakota.

### Highlights from the 2025 CIRCLES Gathering


Alliance members practiced playing a Flathead-style handgame (above left) and explored its relevance to math education. The next day, the Alliance visited New Town High School in the Mandan, Hidatsa, and Arikara Nation to facilitate handgames and discussion with students. During the visit, Siona Astorga (above right) spoke with students about the cultural signifance of handgames.

### A Deeper Dive: Handgames and Math

CIRCLES consultant Dr. Danny Luecke teaches at Turtle Mountain College and incorporates handgames into Indigenous math education. Learn more in:

**A culturally relevant, imbued, and sustaining pedagogy framework for culturally connected math curriculum. Frontiers in Education (January 2025)**

**Balance and Harmony: Ojibwe Mathematics at Turtle Mountain Community College. *Tribal College Journal of American Indian Higher Education* (August 2023)**

## Highlights from the 2025 CIRCLES Gathering (continued)

Minot State University students (from left to right) Jorja Short, Shay Ostlund, Amberlee Jo Medrud, and Chiara Forschen shared their reflections during a panel discussion about their experiences as Indigenous students in STEM. The panelists described their own experiences through K-12 and higher education, as well as some of their hopes and recommendations for supporting Indigenous students in STEM.

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The Plum River Prairie project is restoring a native prairie ecosystem on the site of a former school. Dr. Dan Conn guided the Alliance on a tour of the emerging prairie, which has been planted with red clover to restore soil health. In partnership with CIRCLES, Minot State University medicinal chemistry major Patrick Baker and Dr. Ruth De La Cruz (Nueta Hidatsa Sahnish College) are working with local partners on the restoration project, which is grounded in Hidatsa traditions.

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Evaluation was woven throughout the Gathering. In this “Rock, Stick, Leaf” activity, participants shared what “rocked” their mocs, what ideas they wished to “leaf” with the Alliance, and what will “stick” with them. Year-round evaluation practices include Talk Story Dialogues in winter, an annual reflection survey, and state-level evaluation of CIRCLES programming.

# On the Road with CIRCLES

This fall, CIRCLES team members, partners, and students have been on the conference circuit, sharing ideas and approaches with national audiences.

At the conference of the **American Indian Science and Engineering Society (AISES)** in Minneapolis, MN (October 2-4, 2025), Stephanie Higdon, Baylee LaCompte, and Mary Mitchell co-facilitated "Teaching Culturally in the Math and Science Classroom."

Workshop participants engaged in a lesson resource, developing a learning vision board. Science educators received images of three living beings found in South Dakota (a coyote, a sunflower, and a walleye). Math educators received recycling data for South Dakota. They then reflected on what they notice in the images, the questions the images cause them to ask, and how the topics they were going to learn may connect to their own community. Participants then created a vision board to demonstrate what they hope to learn in the unit.

*Participants at the SD CIRCLES Workshop at AISES*

Higdon is the CIRCLES Alliance Curriculum Development Facilitator, and LaCompte and Mitchell are members of South Dakota CIRCLES' advisory board. LaComte is the Mentor Program/Dual Credit Manager at Sitting Bull College. She is an enrolled citizen of the Standing Rock Oyate, federally recognized as the Standing Rock Sioux Tribe, and a direct descendent of the Rosebud Sioux Tribe. She is from the Bear Soldier Community (McLaughlin). Mitchell teaches 7th grade science at Cheyenne-Eagle Butte Junior High and is a proud member of the Cheyenne River Sioux Tribe. (Continued on p. 4)

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# CIRCLES on the Road (continued)



Also spotted at AISES were teams of students and their mentors from New Mexico (above left) and Wyoming (above right).



The CIRCLES Alliance was also represented in two sessions at the **National Indian Education Association Convention and Trade Show** (October 8-11 in Spokane, WA). Pictured above left, the Idaho CIRCLES team presented "Cultivating Indigenous Excellence in STEM: The CIRCLES Scholars Journey." Using a gallery walk format, graduate students in the Certificate in Indigenous Research and Education (CIRE) program shared artifacts recorded for their collaborative autoethnographic research and reflections on sovereign-affirming academic programming.

Pictured above right, the Wyoming CIRCLES team presented "Empowering Indigenous STEM: Advancing Research and Strengthening Community Cohesion," sharing experiences from CIRCLES partnerships with Central Wyoming College and tribal partners on the Wind River Reservation.

# An Interview with Siona Astorga

Siona Astorga is the Braiding Indigenous Knowledge Coordinator with the High Plains American Indian Research Institute at the University of Wyoming. She joined the CIRCLES team in 2025.

**Please tell us about yourself.**
Neneeninoo ciinih'ei Siona Astorga. I received my name in Arapaho ceremony. I was given my great grandmother Winnie Shotgunn's name Kills Inside. I am an enrolled member of the Northern Arapaho Tribe. I also have descendency with the Northern Cheyenne Tribe out of Lame Deer, Montana, and I'm also Diné. My two clans are Tódík'ǫ́zhí and Honágháahnii.

*Siona (center) with her older brother Alonzo (left) and younger sister Angela (right) presenting a scholarship at Wyoming Indian High School.*

I was a military kid, but as of now I live on the Wind River Reservation in Ethete, Wyoming. I'm a graduate from Wyoming Indian High School. I did my associate's degree at Central Wyoming College in Applied Sciences. I transferred to Haskell Indian Nations University, where I finished my undergrad in environmental science.

I played women's basketball for four years at the collegiate level; I've been playing basketball basically my whole life. I just got accepted to grad school at the University of Kansas, so I'm in my first semester in the masters of water resource science in the Civil Engineering department.

I'm working as the Braiding Indigenous Knowledge Coordinator with the University of Wyoming, and I work directly with the Wind River Tribal College, working a lot with braiding indigenous knowledge in spaces such as schools, even in the workplace, working directly with the Arapaho language.

**What interests you about the work of the CIRCLES Alliance?**
I feel like the CIRCLES Alliance came at a great time in my life. Through CIRCLES, I was able to find a way of working with Indigenous knowledge and decolonizing educational and professional settings to include our Indigenous knowledge,

(continued on p.6)

(continued from p.5)

language, and ways. CIRCLES has made a space where we're able to be ourselves and belong. When I was going through school, there wasn't much about Native culture or any of the tribes—their government and history.

**What are some of your hopes for your future professional life?**
I'm a very traditional person in my ways, ceremonially and with language, so some of my hopes are to become fluent in my Indigenous language, not just Arapaho but also some Cheyenne and Navajo, because I feel like to love all of me, I have to love all parts. I'm half Native but also half Mexican, so that would include Spanish. My hopes would be to be able to become a storyteller and a knowledge keeper as I get older. Some of my hopes would also be to create a mentor program on my reservation where we're able to be a resource for kids. If I can be a mentor for kids and give them the tools, then maybe that will help them persevere and come back home with a degree or a certification.

**What's your favorite thing to do outside of work?**
I love basketball. You win some, you lose some, but it's such good teaching in life. You're going to get knocked down, you're probably going to have to make a tough shot, and it's just constant reps, but it becomes easier each time.

**What's your favorite meal?**
I'm lactose intolerant, but I love pizza. The best pizza I've ever had was in New York City for my 22nd birthday.

**If you could travel anywhere in the world, where would you go?**
Can I time travel? I would love to see the Battle of the Greasy Grass to watch how the whole thing happened when the Lakota, Arapaho, and Cheyenne defeated Custer. I've heard a lot of storytelling about it, and I'm a descendent of somebody who was there. We honor that victory day, so that would be one place I'd want to go back in time.

## Research Spotlight

A new research brief authored by CIRCLES team members Drs. Lani Tsinnajinnie, Keiko Beers, and Selena Connealy highlights results from the first phase of project research in New Mexico and describes how those finding inform current practice.

# Cross-Pollination: Educator Workshops Roll out in Montana

CIRCLES activities that are developed by teams in one or two states are being scaled across the Alliance and shared with broader communities of interest. An example of this cross-pollination took place in August 2025 in Dodson Montana, where educators participated in the CIRCLES Alliance Effective Teaching Practices with Connections to Indigenous STEM workshop.

During this professional learning experience, a wide range of school staff came together to engage in meaningful discussion and reflection on strategies for cultivating student belonging and building open, supportive, and brave learning environments—spaces where all students can develop and strengthen their STEM identities. Participants also engaged in place-based STEM activities that highlighted local connections to science, explored the value of multiple perspectives, and reflected on their new learning for implementation during the school year.

Dodson is located in rural northeastern Montana near the Fort Belknap Indian Community, home of the Nakoda and Aaniih Nations. The workshop was originally launched by the South Dakota team before being scaled out in collaboration with the Montana CIRCLES team.


*Above: Dodson educators explore place-based STEM.*

COMING SOON

**Indigenous Pi Day Festival**
**March 14, 2026 (3.14.25)**
**Indian Pueblo Cultural Center, Albuquerque**

NM CIRCLES Indigenous Pi Day Festival will elevate the contributions of Indigenous peoples to mathematics and highlight the ways that Native peoples do mathematics in a way that celebrates community. Our vision includes Indigenous mathematicians, various pi(es), hands-on activities, storytelling, and intergenerational learning and sharing.

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