

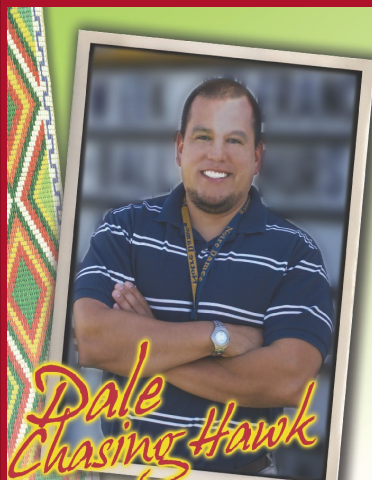


# ENCOURAGING EXCELLENCE

APRIL 2023

ISSUE 30

**Dale Chasing Hawk**  
Rosebud Lakota  
School Psychologist



**Featured Role Model**

To learn more about our programs, visit our website:  
[www.unmc.edu/sepa](http://www.unmc.edu/sepa)

**Newsletter Committee**  
Shrawan (Sam) Kumar  
Maurice Godfrey  
Kim Soper  
Liliana Bronner

## SEPA PROGRAM 2023

Dr. Maurice Godfrey, Professor and Ms. Liliana Bronner, Asst. Professor  
SEPA Program Co-Directors

We are thrilled to have been able to re-start our visits to schools, have some programs at UNMC, and a full slate of summer programs for students and teachers.

We learned last year that SEPA is now permitting more than one grant per institution. With that in mind we are planning a second SEPA to give high school students experiences in the professions that are the hallmark of the Munroe Meyer Institute. As shown in this Newsletter, we have the “Find Your Future Shadowing Exploration” scheduled for June 19 – 23, 2023. This program is for a small number of high school students and we will be able to provide lodging for students who are not from Omaha.

We also expect that our I-SPARK program will continue this summer. Details will be available soon. NIH will be scheduling a site visit to see our progress.

### (I-SPARK)

## Indigenous Student Program for Advancing Research Knowledge: “Neuroscience and the Brain’s Role in Coordination”

**On Monday, February 20, 2023, eight students participated in the I-SPARK daylong spring program.** The students took part in a variety of hands-on activities to learn about “Neuroscience and the Brain’s Role in Coordination.” The activities were planned in collaboration with [Prairie STEM](#). The first activity consisted of learning about how delayed-release medications work. In a lab setting, the students tested different polymer types to dissolve a “pill” in water. Dyad student groups competed with each other to find which ones developed the “pill” that released the correct amount of medication at the right time. The activity demonstrated why slow-releasing medications are crucial in the treatment of many neurological disorders. During the second half of the day, the students used Virtual Reality (VR) headsets to experience how technology is used in the field of neuroscience to help train people to improve their reaction time, quicker decision-making, and peripheral vision. After the program, the majority of the students confirmed their future interest and continued pursuit of a health science career in the evaluations.

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## Wagner Middle School Family Science Night, March 2023

SEPA has engaged in many outreach initiatives, and our program offers a fantastic chance to introduce science to students at a young age, enabling them to cultivate a lifelong interest and prepare for a career in science.

**Magic and Science: Chemical Magic Tricks:** Dr. Kumar from the SEPA team paid a visit to Wagner School in South Dakota on March 14, 2023, for Family Science Night. The secrets of chemistry and the mini show offered by Dr. Kumar delighted both children and adults and inspired an interest in science. More than 140 students and parents participated in the activities and learned about the science of chemistry. Several chemistry demonstrations, such as a volcano on a plate, elephant tooth paste, flameproof money, and making silver and gold coins, were demonstrated. As seen in the pictures students were in awe while watching these fun experiments that brought smiles and an interest in science.

**Virtual Reality (VR) in Education:** Emerging VR technology offers a way to construct immersive and engaging learning experiences in different branches of science for all students. SEPA team member Dr. Kumar used first-time virtual reality learning tools to excite and create an unforgettable education experience for students from elementary, middle, and high school. As seen in the pictures below, students studied basic science (DNA) and cell biology. All of them were excited about using their hands and bodies to interact with 3D objects, allowing them to intuitively explore and absorb knowledge.





## Find Your Future Career Shadowing Exploration for High School Students

**Monday, June 19 - Friday, June 23, 2023**

This upcoming opportunity will help students **explore careers** that provide services for children and adults with developmental disabilities or movement dysfunctions.

**Students will get shadowing experience and learn about a “day in the life” of some of the following professions:**

- Speech Language Therapy** – Speech pathologists help children and adults communicate independently. They offer services that include assessment and treatment of individuals with disorders affecting speech, language, voice, cognition, and swallowing.
- Physical Therapy** – Physical therapists promote independence, increase participation, facilitate motor development and function, improve strength and endurance, enhance learning opportunities and ease challenges with daily caregiving for people with developmental disabilities or movement dysfunction
- Recreation Therapy** – Recreational therapists uses play, recreation and leisure activities to improve physical, cognitive, social and emotional functioning
- Genetics** – Geneticists help individuals and families understand the diagnosis, treatment and management of a genetic or metabolic disorder. They offer advice on recurrence risks and future family implications, in addition to helping parents gain an understanding of what may have caused the anomaly
- Psychology** – Psychology behavioral health specialists provide clinical services for a wide variety of behavioral, social-emotional, developmental and physical, and cognitive disabilities in infants, children, and teens. They provide intensive training experiences in psychological evaluation, treatment, and research with children, adolescents, and their families.
- Pediatric Feeding Disorders** – Feeding disorder professionals focus on understanding the cause of a child’s feeling problems, while considering medical history, oral and motor skills, nutrition, and behavior. Their goal is to teach a child to eat like other children and promote appropriate weight gain and growth.
- Neurodevelopmental & Related Disorders** – Neurodevelopmental specialists are professionals dedicated to improving the health of children who have, or are at risk for, neurodevelopmental and other related developmental disabilities (DD), including autism spectrum disorder (ASD). They work closely with others from a wide variety of professional disciplines to ensure high levels of interdisciplinary clinical competence.
- Developmental Disabilities** – The developmental medicine team serves infants, youth, and adults for a variety of developmental, behavioral, mood and emotional disorders, including Autism Spectrum Disorders, ADHD, developmental delay, learning problems and anxiety. They promote independence, self-determination, productivity, integration, and inclusion of individuals with developmental disabilities and provide supports for families.
- Motion Analysis & Virtual Reality Lab** – This program provides diagnostics and treatments – who have disorders of walking. Advanced blend of engineering, biomechanics and brain imaging to quantify movement disorders and inform treatment strategies for individuals with cerebral palsy and other movement disorders.

### Where

**Munroe Meyer Building**  
located west **6902 Pine St.** in  
Omaha, Nebraska

### When

**June 19 - 23, 2023**

Each day will run for 6.5 hours at  
**9:00 am – 3:30 pm (M-F).**

### Participation Perks

- No cost to attend
- Get fun health career shadowing experience
- Lunch meal provided
- Earn compensation for attending all the planned career exploration sessions

**To Confirm Your Participation:**  
Return registration form and  
parent permission form **May 28th**

Registration forms available at:  
**<https://bit.ly/fyfreg2023>**

**Mail registration forms to:**  
FYF Shadowing  
983075 Nebraska Med Center  
Omaha, NE 68198-3075

### Questions?

Email: [sepa@unmc.edu](mailto:sepa@unmc.edu)  
Phone: (402) 559-6689







**Indigenous Student Program  
for Advancing Research Knowledge (I-SPARK)  
“Neuroscience and the Brain’s Role in Coordination”**



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The I-SPARK program was designed to encourage, guide, and inspire high school students from traditionally underrepresented populations in science. The program gives underserved students the opportunity to gain an understanding of basic laboratory procedures, techniques, and science research experience in order to compete with their peers for summer research internship programs when they become undergraduate students.

We look forward to the upcoming summer program and renewed opportunities to engage students in more health science lab activities.



**ANNOUNCEMENTS /UPCOMING EVENTS**

- SEPA Board Meeting**  
Date: Friday, April 14, 2023  
Time: 10 AM-1 PM
- Wagner School Visit to UNMC**  
Date: Friday, April 14, 2023  
Time: 10 AM-3 PM
- SEPA Summer Camp**  
UNMC and UNO Campuses, Omaha, NE  
Date: Sunday, June 4 - Wednesday, June 7, 2023
- SEPA Teacher Workshop**  
MMI and UNO Campus, Omaha, NE  
Date: June 12-14, 2023
- Career Exploration & Shadowing For High School Students**  
Munroe Meyer Institute, Omaha, NE  
Date: June 19-24, 2023
- Indigenous Summer Program for advancing Research Knowledge (I-SPARK)**  
UNMC, UNO, Creighton, Omaha, NE  
Date: June 26 - July 28, 2023 (Monday - Friday)
- SHPEP-YES-WISH**  
Date: Sunday, July 9 - Saturday, July 15, 2023

Email us with your questions: [sepa@unmc.edu](mailto:sepa@unmc.edu)

**I-SPARK Upcoming Summer Program will Explore Research & Careers in the Health Sciences for High School Students**

**Starts on Monday, June 26, 2023**

I-SPARK stands for Indigenous Summer Program Advancing Research Knowledge. Up to 12 high school students can take part in this five-week summer program that provides an understanding of basic laboratory procedures and techniques. The program aims to make participating students competitive applicants for college and other summer research internship programs offered by NIH and other institutions. In addition, one day per week will be devoted to personal, career, and academic development. The program will be held in person and taught by faculty members from UNMC, UNO, and Creighton University. The program will run from 10 AM - 3 PM, Monday to Friday starting on June 26th. The following are some of the topics that will be covered:

- ◆ Lab Safety 101
- ◆ Intro to Chemistry & Chemistry Lab
- ◆ Engineering for Healthy Communities
- ◆ Computational Biology
- ◆ Ethics in Genetics Research
- ◆ Neuroscience Clinical and Lab Research
- ◆ & Professional and Personal Development Topics



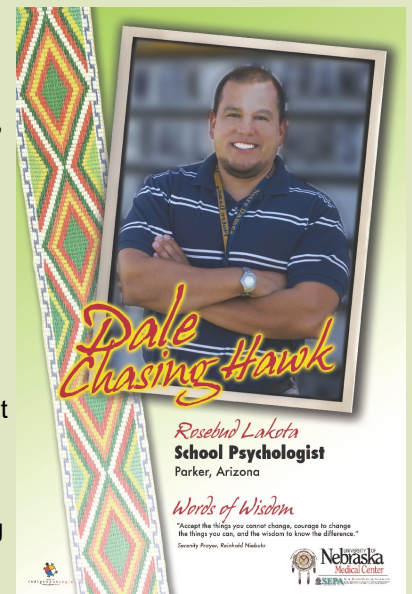
Registration forms will be available at <https://bit.ly/isparkreg23>

**Registration deadline is May 28th.**  
Questions about the program: [sepa@unmc.edu](mailto:sepa@unmc.edu)

**Role Model Poster Project**

The Role Model Poster Project features Native Americans in many health and science professions. Each poster includes the name, photograph, and tribal affiliation of the person featured. Additional information for teachers include: education, benefits, motivation, special job skills, and words of wisdom. These posters proved to be a great source of inspiration and motivation to the students and teachers. There are currently ten sets of posters and each set features five tribal members.

Do you know a Native American individual who could serve as a role model for young students? We are looking for Native American individuals in jobs or careers related to the Science, Technology, Engineering, and Math, please have them complete and application. We'd love to feature them in the next role model poster set!



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