



# 2024 REGION 6 CONFERENCE

REGISTRATION IS FREE, BUT REQUIRED

THEME:  
**SOVEREIGNTY IN SCIENCE**

**FRIDAY,  
MARCH 22ND**

**2:30PM - 6:00PM**

**SATURDAY,  
MARCH 23ND**

**8:00AM - 8:00PM**

**SPONSORED BY:**

JACK KENT COOKE  
FOUNDATION



Hosted by the AISES Chapter at Cornell



CORNELL UNIVERSITY  
Physical Sciences Building



# SCHEDULE: 2024 REGION 6 CONFERENCE

FRIDAY, MARCH 22ND

**2:30PM - 3:00PM**

## **AISES Introduction**

What is AISES?

Learn what AISES has to offer, nationally, regionally and at a university level.

📍 Location: Toni Morison Hall Multipurpose Room

**3:30PM - 5:00PM**

## **Tour of Lab Spaces**

Teaching Dairy Barn

Entomology Lab

Aerospace Lab

Students will be assisted in locating these

📍 lab spaces

**5:30PM - 6:30PM**

## **Ice Cream Social**

📍 Location: Akwe:kon





# SCHEDULE: 2024 REGION 6 CONFERENCE

SATURDAY, MARCH 23ND

**8:00AM - 9:00AM**

## Breakfast

📍 Location: Toni Morrison Dining Hall

**8:00AM - 5:00PM**

## Study Room (Open all Day)

📍 Location: Clark 294E

**9:00AM - 9:15PM**

## Opening Thanksgiving Address

Stephen Henhawk (Gayogohónq')

📍 Location: Toni Morrison Hall,  
Multipurpose Room

**9:15AM - 9:30PM**

## Welcome from AISES Student Leadership

📍 Location: Toni Morrison Hall,  
Multipurpose Room

**9:30AM - 9:45PM**

## Welcome remarks from the Dean & Introduction of Keynote Speaker

Dean Archer, College of Engineering

📍 Location: Toni Morrison Hall,  
Multipurpose Room



# SCHEDULE: 2024 REGION 6 CONFERENCE

SATURDAY, MARCH 23ND

## Keynote Address

9:45AM - 10:45AM

Evelyn Galban - University of Pennsylvania  
Location: Toni Morrison Hall,  
Multipurpose Room

## MORNING SESSIONS I

### Getting to know AISES and a guide to chapter success

Kaitlan Lyons, Engagement Officer, AISES  
Location: Clark 294A

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11:00AM - 11:50PM

### Muts'ispa - Geochemistry and Traditional Stewardship at Yellowstone National Park

River Himmer, Cornell University  
Location: Clark 294B

### Exploring the Evidence

Deneen Hernandez, Retired Federal Bureau of Investigation Forensic Examiner  
Location: Clark 294C



# SCHEDULE: 2024 REGION 6 CONFERENCE

SATURDAY, MARCH 23ND

**12:00PM - 1:00PM**

**Lunch**

📍 Location: Baker Portico and Atrium

**1:00PM - 2:00PM**

**Talking Circle**, Hawi Hall

📍 Location: TBD

## AFTERNOON SESSIONS I

**Indigenous Hawaiian Aquaculture -  
He'eia Fishpond**

Hi'ilei Kawelo, Executive Director and  
Co-founder, Paepae O He'eia

📍 Location: Clark 294A

**2:10PM - 3:00PM**

**Protecting Data Sovereignty**

David Arquette, Director,  
Haudenosaunee Environmental Youth  
Task Force

📍 Location: Clark 294B

**CS for Everyone**

📍 Location: Clark 294C

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# SCHEDULE: 2024 REGION 6 CONFERENCE

SATURDAY, MARCH 23ND

## AFTERNOON SESSIONS II

### **I Spy, PFAS**

Chelsea Tarbell, Geologist, PG, HDR  
Engineering, Inc

📍 Location: Clark 294A

**3:10PM - 4:00PM**

### **Indian Health Services**

📍 Location: Clark 294B

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## AFTERNOON SESSIONS III

### **The Unrecognized STEM of Native America**

Roger Dube, Board Member and Emeritus  
Professor, AISES

📍 Location: Clark 294A

**4:10PM - 5:00PM**



# SCHEDULE: 2024 REGION 6 CONFERENCE

SATURDAY, MARCH 23ND

## AFTERNOON SESSIONS III - CONTINUED

### **Operationalizing Tribal Sovereignty as a Tool for Understanding the Decisions of Students and Organizations in STEM Education**

**4:10PM - 5:00PM**

Tyler Young, PhD Student, Engineering  
Education, The Ohio State University

📍 Location: Clark 294B

### **Measure and Manage Complex Risks as an Actuary**

📍 Location: Clark 294C

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**5:00PM - 8:00PM**

### **Dinner and Social**

Traditional Foods by Angela  
Ferguson and singer group led by  
Chris Thomas

📍 Location: Toni Morrison,  
Multipurpose Room

# KEYNOTE ADDRESS



Dr Evelyn Galban, a Washoe and Mono Lake Paiute woman, is a distinguished alumna of Cornell University (Class of '98, '02, '06). Her academic journey began with a degree in general biology, followed by a focused study of an emerging avian disease, culminating in a Master of Wildlife Science degree. She pursued her passion for veterinary medicine, embarking on a journey that led her to a small animal internship at Red Bank Veterinary Hospital and eventually to a residency in Neurology and Neurosurgery at the University of Pennsylvania.

Returning to Penn Vet after private practice, Dr. Galban is now an Associate Professor and the Section Chief of Clinical Neurology and Neurosurgery. She is the Director of House Officers and Associate Medical Director at Penn Vet's Ryan Hospital. Her expertise and research interests span a broad spectrum, encompassing 3D medicine, cutting-edge minimally invasive brain and spinal cord surgical techniques, the exploration of biomarkers for central nervous system diseases, and the fascinating realm of comparative and clinical neurology within zoological settings.

Beyond her pioneering work in the field of veterinary medicine, Dr. Galban is also celebrated as the founder of the Native American Veterinary Association, demonstrating her commitment to promoting diversity and inclusion within the profession.

# SESSION INFORMATION

**Title:** Operationalizing Tribal Sovereignty as a Tool for Understanding the Decisions of Students and Organizations in STEM Education

**Presenter:** Tyler Young, PhD Student, Engineering Education, The Ohio State University

**Description:** Tribal sovereignty is perhaps the most fundamental concept underpinning the lived experiences of American Indians past, present, and future. And yet it remains inadequately understood by Natives and non-Natives alike. At its most basic level, tribal sovereignty is defined as a right to self-government. Yet this purely legal definition is too narrow and does not capture the myriad ways in which sovereignty exists and orients the actions of millions of tribal citizens and non-citizens. Recognizing this, scholars have debated the sources, characteristics, and scope of tribal sovereignty, but their contributions have not resulted in a single, unifying framework. Writing in 1998, Vine Deloria, Jr. lamented that the definition of tribal sovereignty had become untethered, “adrift on the currents of individual fancy.” A quarter of a century later, that observation still rings true. This 50-minute session will provide participants with a framework for understanding the complexities of tribal sovereignty and identifying its implications in the decision-making of students and organizations in STEM education. This framework consists of three interrelated dimensions – temporal, spatial, and origination – which were derived from three broad categories of questions that have been asked about tribal sovereignty: Towards what time frame is it oriented, where is it exercised, and from whom or what does it gain its legitimacy?

**Audience:** Pre-College, College, Professional

**Title:** Exploring the Evidence

**Presenter:** Deneen Hernandez, Retired Forensic Examiner, Retired Federal Bureau of Investigation; Avery Brinkheide, Accounting Student, Tohono O’odham Community College

**Description:** A hands-on forensic science activity involving cryptanalysis, forensic anthropology, and dental impression evidence.

**Audience:** Pre-College, College, Professional

**Title:** Protecting Data Sovereignty

**Presenter:** David Arquette, Director, Haudenosaunee Environmental Youth Task Force  
darquette@hetf.org

**Description:** The Haudenosaunee Nations consist of the Mohawks, Oneidas, Onondagas, Cayugas, Senecas, and Tuscaroras and also referred to as the Six Nations. Each Nation is sovereign in its own right. I will talk about what we had to do to Keep our sovereignty and protect the data we generate from being abused by outside entities using our own customs, protocols and practices. I will use a powerpoint presentation to outline my goals, objectives and ideas to relate to the audience.

**Audience:** College, Professional



# SESSION INFORMATION

**Title:** Indigenous Hawaiian Aquaculture - He'eia Fishpond

**Presenter:** Hi'ilei Kawelo, Executive Director and Co-founder, Paepae O He'eia  
hiilei@paepaeoheeia.org

**Description:** This presentation gives an overview of Loko I'a (fishpond) restoration efforts in Hawai'i, specifically focusing on He'eia fishpond (located in the He'eia Ahupua'a on Oahu). He'eia fishpond is a kuapā-style fishpond enclosing 88 acres of brackish water. The kuapā (wall) is built on Malauka'a, a fringing reef and extends away from the shoreline, completely encircling the fishpond. Built approximately 600-800 years ago by the residents of the area, the kuapā is possibly the longest in the Hawaiian Islands measuring an estimated 1.3 miles (7,000 feet). A unique feature of He'eia Fishpond is that its wall forms a complete circle around the fishpond; most other fishpond walls were either built in a straight line or as a semi-circle, connecting one point of shoreline to another. He'eia Fishpond has seven mākāhā – four along the seaward facing wall that regulate salt water input and three along He'eia stream that regulate freshwater input. By allowing both fresh and salt water to enter the pond, the pond maintains a brackish water environment and creates the ideal habitat for algae (limu) to proliferate. By cultivating limu, much like a rancher grows grass, the kia'i (guardian/caretaker) could easily raise herbivorous fish and not have to feed them. Fish that live in He'eia Fishpond include 'ama'ama, awa, pualu, palani, āholehole, moi, kōkala, kākū, and pāpio. The fishpond is also home to different species of pāpa'i (crab), 'ōpae (shrimp) and puhī (eels). Paepae O He'eia's mission is "Growing Seafood for Our Community One Pohaku at a Time", this presentation will introduce Loko I'a and show how, by embracing sovereignty (and the practices of our ancestors), we can live a more sustainable lifestyle and reconnect with our natural resources.

**Audience:** College, Professional

**Title:** I Spy, PFAS

**Presenter:** Chelsea Tarbell, Geologist, PG, HDR Engineering, Inc

**Description:** This is a presentation on PFAS investigations from the perspective of a geologist working in Pennsylvania working largely on Site Remediation projects including brownfields and our big player lately PFAS.

Per- Polyfluoroalkyl Compounds (PFAS) are the "Forever Chemical" that have been making headlines for their widespread use, tendency to bioaccumulate, and health risks to people and the environment. I will give a background on what PFAS are and present a case study that shows how to tackle large scale PFAS investigations that span several towns and how client relationship and community involvement all played a part in the problem and can aid in the solution. The case study, that I have to leave nameless for client confidentiality, is a 70 square mile site in Pennsylvania with PFAS contamination in supply wells, residential wells, soil, surface water, and wastewater treatment plants. It's been a four year and growing project to identify potential sources, determine the extent, and come up with preliminary solutions for the client. Though the example is from Pennsylvania, PFAS is a concern throughout the country with EPA and state rules and regulations changing every day. The goal and learning objectives are to inform students as well as professionals of the up-and-coming contaminant and give some inside information that could help give them a leg up in the industry.

**Audience:** College, Professional

# SESSION INFORMATION

**Title:** The Unrecognized STEM of Native America

**Presenter:** Roger Dube, Board Member and Emeritus Professor, AISES

**Description:** Native American science spanned many millennia and was growing exponentially when contact occurred. Developed using a unique Native scientific method that is parallel to but different from that of western science, Native inventions were often overlooked or dismissed by Europeans. The fact that our science was embedded in the natural world added to their difficulty in seeing these advances. However, not only did many of these inventions occur centuries or millennia before the rest of the world, in some cases they were not equaled until the present day. In this presentation, we will review some of these major technological advances and demonstrate how the Native scientific method can be fused with western science to provide new insights and expand the horizons of science.

**Audience:** College, Professional

**Title:** Muts'ispa - Geochemistry and Traditional Stewardship at Yellowstone National Park

**Presenter:** River Himmer, Yellowstone National Park Tribal Heritage Fellow & Graduate Student, Yellowstone National Park, Cornell University, Earth and Atmospheric Sciences

**Description:** As a Nez Perce woman, North Central Idaho and Yellowstone's West Entrance is a familiar place. I remember picking huckleberries and salmonberries along the rivers, and my relatives hunting bison every year during the allotted hunting season. After learning the meaning of why we were allowed to do this, and what treaty rights mean to our people, I began to feel a sense of betrayal in my work in the sciences. Non-Native scientists write about the National Parks all the time, taking samples, and telling stories, even stories of our own people, outside of our input or consultation. Even during treaty season, we become hidden in the background, as if the land that hundreds of thousands of people across the world come to visit isn't part of our home. As I've grown into the role of a geochemist, I've realized that my background in this land presents an obligation to heal and create new avenues of research that not only include our people, but invite us into new methods of stewardship and guardianship, continuing the role that has and always will be ours. I will present my data on the orogenic history of the Yellowstone Caldera Complex and Yellowstone Plateau. I will also share how my role as a community member has given me a chance to share my findings with my community and bring more of us into the conversation.

**Audience:** College, Professional

**Title:** Getting to know AISES and a guide to chapter success

**Presenter:** Kaitlan Lyons, Engagement Officer, AISES

**Description:** Learn basic information about AISES, Chapter Information, and AISES updates.

**Audience:** Pre-College, College, Professional



# SESSION INFORMATION - SPONSORS

**Title:** Indian Health Services

**Presenter:** Indian Health Services, Sponsor

**Description:** The Indian Health Service, an agency within the Department of Health and Human Services, is responsible for providing federal health services to American Indians and Alaska Natives. The provision of health services to members of federally-recognized tribes grew out of the special government-to-government relationship between the federal government and Indian tribes. This relationship, established in 1787, is based on Article I, Section 8 of the Constitution, and has been given form and substance by numerous treaties, laws, Supreme Court decisions, and Executive Orders. The IHS is the principal federal health care provider and health advocate for Indian people, and its goal is to raise their health status to the highest possible level. The IHS provides a comprehensive health service delivery system for approximately 2.6 million American Indians and Alaska Natives who belong to 574 federally recognized tribes in 37 states.

**Audience:** College, Professional

**Title:** Measure and Manage Complex Risks as an Actuary

**Presenter:** Mallika Bender, Diversity, Equity & Inclusion Staff Actuary, Casualty Actuarial Society, Sponsor

**Description:** Join the Casualty Actuarial Society to learn how actuaries apply analytical skills to manage complex property and casualty risks. In this session, we'll share more about the type of work that actuaries do across a variety of industries, the new and emerging risks that actuaries help manage, and the steps you can take right away to get started and advance on the actuarial career path. If you want to combine your interest in mathematics, business and human behavior to increase the economic well-being of individuals and organizations, this is a career you should know about.

**Audience:** Pre-College, College, Professional

**Title:** CS for Everyone

**Presenter:** Kimberly McCrimmon, Director, Recruitment Marketing, Northeastern University Khoury College of Computer Sciences

**Description:** Explore the world of computer science and its power to make the world a better place. Whether you have coded before or you're just curious about the tech field, this session will show you how computer science is a part of your everyday life and the impact computer science can have on diverse communities. Join our interactive discussion and informative presentation "CS for Everyone" designed to highlight the inclusivity and accessibility of computer science education at Khoury College of Computer Sciences.

Goal - Provide insight into computer science for everyone and why tech industry needs diverse perspectives in the evolving tech world.

**Audience:** Pre-College, College, Professional



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**REGION 6 CONFERENCE**



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