ANNUAL REPORT

2021







circles of connection

AISES - AISES in the News

An article on CIO.com, citing tech companies' poor track record when it comes to increasing diversity – 68 percent of the workforce is white - recognized 15 organizations working to change the statistics. First on the list of organizations recognized for growing representation through scholarships, training, networking, and more was AISES.

enumeration

AISES Council of Elders

Antoinelle Benally Thompson (Navajo) Dr. Bret R. Benally Thompson (White Earth Ojibwe) Rose Darden (Ute) Steve Darden (Navajo/Cheyenne/Swedish) Norbert Hill, Jr. (Oneida) Phil Lane Jr. (Yankton Dakota/Chickasaw) Cecelia Lucero (Acoma Pueblo) Dr. Artley M. Skenandore (Oneida) Faith Spotted Eagle (Ihanktonwan Band of the Dakota/ Nakota/Lakota Nation of South Dakota)

AISES Council of Elders Emerita

Dr. Henrietta Mann (Southern Cheyenne)

Council of Elders in Memoriam

Andrea Axtell (Nez Perce) Horace Axtell (Nez Perce) Eddie Box, Sr. (Southern Ute) Franklin Kahn (Navajo) Mary Kahn (Navajo)

Bow Lane (Chickasaw) Phil Lane, Sr. (Yankton Sioux) Stanley Lucero (Laguna Pueblo) Dr. James May (United Keetoowah Band of Cherokee Indians) Dr. Lee Piper (Cherokee)

Board of Directors 2021-2022

Officers

Michael Laverdure (Turtle Mountain Band of Chippewa) Board Chair/Development Committee Board Term: 2019 - 2022 Region 5

Gary Burnette (Cheroenhaka Nottoway) Board Vice Chair/Development Committee Chair Finance Committee Board Term: 2021 - 2024 Region 7

Kristina J. Halona (Navajo) Advocacy and Membership Committees Board Term: 2020 - 2023 Region 3

Dr. Grace Bulltail (Crow Tribe, and a descendant of the Three Affiliated Tribes)

Board Treasurer/Finance Committee Chair Board Term: 2020 - 2023 Region 5

Board Members

Deanna Burgart (Fond du Lac First Nation, Saskatchewan,

Education Committee Co-chair/Governance Committee Board Term: 2019 - 2022 Region 1

Jonathan Clark (San Carlos Apache Tribe) Board Term: 2021-2024 Region 3

Brendan Kinkade (Choctaw Nation of Oklahoma) Board Term: 2019 – 2022 Region 2

Dr. Adrienne Laverdure (*Turtle Mountain Band of Chippewa*) Board Term: 2020 – 2023 Region 5

Melvin Monette-Barajas (*Turtle Mountain Band of Chippewa*) Board Term: 2019 – 2022 Region 3

Dr. Traci L. Morris (*Chickasaw Nation*) Advocacy Committee Chair Board Term: 2020 – 2023 Region 3

William Tiger (Miccosukee Indians of Florida)
Governance Committee Chair/Development Committee
Board Term: 2019 – 2022
Region 7

Dr. Wendy F. Todd (Xáadas) Finance Committee/Education Committee Board Term: 2020 – 2023 Region 5

Board of Directors 2020-2021

Officers

Gary Burnette (*Cheroenhaka Nottoway*) Board Chair/Development Committee Chair/ Finance Committee Board Term: 2018 - 2021

Michael Laverdure (*Turtle Mountain Band of Chippewa*) Board Vice Chair/Development Committee/ Finance Committee Board Term: 2019 - 2022

Amber Finley (Three Affiliated Tribes, Spirit Lake Dakota, Standing Rock Lakota)

Board Secretary/Membership Committee Chair Board Term: 2019 - 2022

Dr. Grace Bulltail (Crow Tribe, and a descendant of the Three Affiliated Tribes)

Board Treasurer/Finance Committee Chair Board Term: 2020 - 2023

Board Members

Deanna Burgart (Fond du Lac First Nation, Saskatchewan, Canada)

Education Committee Co-chair/Governance Committee Board Term: 2019 - 2022

Andrea Delgado-Olson (Ione Band of Miwok Indians)
Professional Development Chair/Education Committee
Co-Chair
Board Term: 2019 - 2022

Jodi DiLascio Development Committee/Governance Committee Board Term: Nov. 2019 - 2022

Kristina J. Halona (*Navajo*) Governance and Advocacy Committees Board Term: 2020 - 2023

Dr. Adrienne Laverdure (Turtle Mountain Band of Chippewa) Board Term: 2020 - 2023

Dr. Traci L. Morris (*Chickasaw Nation*) Advocacy Committee Chair Board Term: 2020 – 2023

William Tiger (Miccosukee Indians of Florida)
Governance Committee Chair
Development Committee
Board Term: 2019 – 2022
Region 7

Dr. Wendy F. Todd (Xáadas) Finance Committee/Education Committee Board Term: 2020 – 2023 Region 5

Board Chairs Emeritus

Gary Burnette (Cheroenhaka Nottoway) Rick Stephens (Pala Band of Mission Indians) Dr. Twyla Baker (Three Affiliated Tribes)
Dr. Melinda McClanahan (Choctaw Nation of Oklahoma) Dr. Mary Jo Ondrechen (Mohawk) Anthony Kahn (Navajo) Dr. Dorothy Pender (Inupiat Eskimo) Dwight Gorneau (Turtle Mountain Chippewa) Andrew Conseen Duff (Eastern Band of Cherokee) Michael Avritt (San Felipe Pueblo) Tommie Lee (Navajo) Dr. Judy Gobert (Blackfeet) Dr. Robert K. Whitman (Navajo) Sandra Begay (Navajo) Donald Ridley (Shoshone) Thomas Dawson, Jr. (Eastern Band of Cherokee) Jaime Pinkham (Nez Perce) George Thomas (Cherokee) Al Qöyawayma (Hopi)

Founders & Early Visionaries

A.T. "Andy" Anderson (Mohawk)
J.C. Elliott High Eagle (Cherokee/Osage)
Carol Metcalf Gardipe (Penobscot/Passamaquoddy)
Jimmy C. Shorty (Navajo)
George Thomas (Cherokee)
Al Qöyawayma (Hopi)

AISES Student Representatives

Senior U.S. National Student Representative

McKalee Steen (Cherokee Nation)

University of California Berkeley, Environmental Science/Electrical Engineering

Term: 2021/2022

Adrian Riives (Sault Ste. Marie Tribe of Chippewa Indians)

Rensselaer Polytechnic Institute, Chemistry

Term 2020/2021

Junior U.S. National Student Representative

Makayla Mather (Tlingit & Tsimshian) Montana State University, Earth Sciences Term 2021/2022

McKalee Steen (Cherokee Nation)

University of California Berkeley, Environmental Science/Electrical

Engineering Term 2020/2021

Regional Student Representatives

Emily Maxwell (Choctaw Nation of Oklahoma)

University of Alaska Anchorage, Master of Public Health Term 2021/2022

Marshand Vasquez (Tribes of the Colville Reservation)

Salish Kootenai College, Life Sciences

Term 2020/2021

Desirae Barragan (Gabrieleño Band of Mission Indians – Kizh Nation)

University of California Los Angeles, Human Biology and Society Term 2021/2022

Alex Armendariz (Mescalero Apache)

California State Polytechnic University Pomona, Regenerative Studies Term 2020/2021

Region 3

Alexis Jishie (Navajo)

Arizona State University, Psychology

Term 2021/2022

Jasmine Charley (Navajo)

Navajo Technical University, Biology

Term 2020/2021

Term 2021/2022

Senior Canadian National Student Representative

Celeste Groux (Bigstone Cree Nation) McGill University, Applied Mathematics

Jacob Calderone (Fort Nelson First Nation)

Queen's University, Chemical Engineering

Term 2020/2021

Junior Canadian National Student Representative

Mindy Dallard (Algonquins of Ontario) Queen's University, Health Sciences

Term 2021/2022

Celeste Groux (Bigstone Cree Nation) McGill University, Applied Mathematics

Term 2020/2021

Region 5

Kimberlee Blevins (Three Affiliated Tribes)

Sitting Bull College, Environmental Science

Term 2021/2022

Danielle Arpan (Oglala Lakota Nation)

South Dakota State University, Nursing

Term 2020/2021

Region 6

Avery Tilley (Cherokee Nation)

Michigan State University, Fisheries and Wildlife Molecular Genetics

and Genomics

Term 2021/2022

Abigail Reigner (Comanche Nation)

Rochester Institute of Technology, Mechanical Engineering

Term 2020/2021

Region 7

Sidney Fire (Caddo),

University of Florida, Music Composition,

Term 2021/2022

Mikaela David-John (St. Regis Mohawk)

University of Florida - Family, Youth, and Community Services

Term 2020/2021

Region 4

Emma Tilley (Cherokee Nation)

Dallas Baptist University, Biology

Term 2021/2022



University of Oklahoma, Electrical Engineering/Finance

Term 2020/2021



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guardianship

Welcome to the 2021 AISES Annual Report! Thank you for reading this overview of what proved to be an exciting year for the AISES family.

The theme of this year's report – Illuminating the Future – is especially resonant because it shines a light on so much of what we do at AISES. Yes, we are focused on the future, preparing young people to find their professional footing in STEM. But at the same time, we know that what they contribute is illuminated by the rich cultural legacy they bring to every endeavor.

In this report you will be able to review the accomplishments of the organization during this past year in support of the Indigenous STEM community. Of course, the most visible success is the broad reach of programs, special events, conferences, and advisory councils. Less readily apparent are the collaborative partnerships with individuals, businesses, and the tribal, academic, and nonprofit entities that invest in our mission to increase the representation of Indigenous peoples in STEM.

Thanks to that support, AISES has emerged stronger from worst period of the global pandemic. As we approach a post-COVID future, the effects of the pandemic are still reverberating. We are navigating an altered landscape and adopting new ways of living, working, and doing business as we continue to build bridges, find connections, and support Indigenous STEM talent in a disrupted world.

The lingering pandemic tested us at every turn in 2021. In our response, we hoped to emulate our ancestors who relied on a refined sense of intuition and excelled at applying lessons learned in adapting to an altered reality to thrive and more forward.

The AISES guiding principles integrate the relationships and connections that inform our work. The job of all of us at AISES is to enable our members to flourish together. As we chart AISES achievements, we must recognize our growing family of members and friends who guide our path and share our goals. We invite you to help us spread the word about the singular opportunities AISES offers to members, partners, and sponsors. Thank you!

With deepest respect,





Michael Laverdure
(Turtle Mountain Band of Chippewa)
AISES Board Chair

Sarah EchoHawk
(Pawnee Nation of Oklahoma)

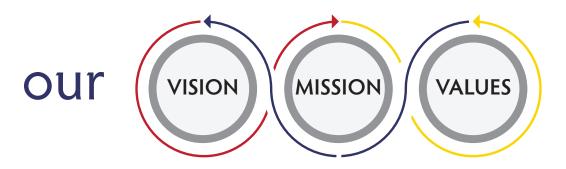
AISES Chief Executive Officer





Academic - Dr. Josiah Hester (Native Hawaiian)

Long before Dr. Josiah Hester became a tenure track professor in Northwestern University's Departments of Electrical and Computer Engineering and Computer Science, his parents taught him to understand the connection between computing and a secure life. His parents started him on learning the Java programming language. Java opened possibilities to create in the virtual world. Dr. Hester rejected the idea that the only way to benefit from computing is by compromising the planet. So, he began building devices that don't need batteries because they get their power from the sun, moon, radio waves, even microbes in the soil. Dr. Hester's devices are aimed at motivating radical technological approaches to address climate change and inspiring people with new ideas to increase environmental quality as well as promoting better human health.



Vision

The vision of AISES is for the next seven generations of Indigenous people to be successful, respected, influential, and contributing members of our vast and everchanging global community.

Mission

AISES is a national nonprofit organization focused on substantially increasing the representation of Indigenous peoples of North America and the Pacific Islands in science, technology, engineering, and math (STEM) studies and careers.

Values

Knowledge

We are committed to the pursuit of knowledge and continuous growth in learning and teaching.

Innovation

We anticipate and embrace change and strive to learn and improve by seeking novel approaches and forward-thinking solutions.

Relationships

We actively build and continually steward transparent, honest, and ethical relationships with our partners, members, and all others who are part of our AISES family.

Commitment

We do what we say we are going to do and conduct our business with the highest standards of professional behavior and ethics.

Empowerment

We embrace the collective power of Indigenous people by encouraging initiative, leadership, and decision-making.

Culture

We honor our ancestors by carrying forward our cultural traditions and values in all that we do.

how we work



Our Three Focus Areas

Student Access and Success

AISES works to ensure Indigenous students have access to STEM programming and services designed specifically for them, including scholarship and academic support as well as mentorship and guidance throughout their educational journey from PK-12 through undergraduate and graduate studies.

Career Support and Development

AISES works to ensure students and early career professionals are supported as they enter and progress in their STEM careers by providing internships, fellowships, training, networking, and direct connections to the vast network of employers who partner closely with AISES to hire talent in the corporate, governement, tribal, and public sectors.

Equitable and Inclusive Educational Institutions and Workspaces

AISES works closely with our expansive network of partners of PK-12 schools, colleges and universities, and employers representing all sectors, to ensure that students and professionals have access to equitable and inclusive educational institutions and workspaces where they can be successful throughout their educational and career journeys.



Advisor – Melanie Howard (Mohawk, Kanehsatake)

Howard is advisor for the AISES College Chapter at Queen's University in Kingston, Ontario. She is the recipient of the inaugural Principal's Teaching award for Indigenous Education. She directs the Aboriginal Access to Engineering Initiative in the school's Faculty of Engineering and Applied Science. She serves on the Editorial Advisory Council for the Winds of Change magazine in addition to being a co-chair on the Canadian Indigenous Advisory Council.

why STEM matters

Achieving Gains in STEM

- ▶ STEM is the future of the workforce. Distance working and distance learning are to increase considerably as more companies, organizations, and institutions avail themselves of the benefits offered by these technologies. (OECD. The Future of Families to 2030, 2011)
- ▶ The national median wage for STEM annual salaries is \$86,980, where non-STEM occupations sit at below half \$38,160. (Bureau of Labor Statistics, 2019)
- ▶ Employment in STEM occupations from 2018 -2028 is projected to rise by over 8% (9.7 million to 10.6 million) compared to a 5% rise in non-STEM occupations. (Bureau of Labor Statistics, 2019)
- The long-term strength of our workforce requires that the full range of STEM and non-STEM career pathways be available to all Americans. (National Science Board, Revisiting the STEM Workforce, 2015)
- ▶ STEM, Healthcare Professions, Healthcare Support, and Community Services will be the fastest growing occupations, but also will require high levels of post-secondary education. (Center on Education and the Workforce, 2013)
- ▶ Four million U.S. computing-related job openings are expected by 2028. (NCWIT)

STEM provides Equity and Opportunity

- ▶ Bachelor's degrees are more likely to interrupt intergenerational cycles of poverty and to close racebased, income-based equity gaps than any other pathway, making them especially important as an option for low-income students and students of color. (Washington STEM White Paper, 2019)
- In 2016 and 2017, median earnings for those with bachelor's degrees in computer science ranged from \$62,000 in early career to \$95,000 in mid-career. (College Board Report, 2019)
- ▶ The earnings path is the steepest for individuals with advanced degrees. Between 2013 and 2017, the gap in median earnings between those with professional degrees and those with bachelor's degrees was 30% for 25- to 29-year-olds and 88% for 60- to 64-year-olds. (College Board Report, 2019)
- More diverse companies, we believe, are better able to win top talent and improve their customer orientation, employee satisfaction, and decision making, and all that leads to a virtuous cycle of increasing returns. (McKinsey & Company, *Diversity Matters*, 2015)

STEM improves Opportunities for Women and Girls

- ▶ Women's participation in the job market in the U.S. has doubled from 50 years ago. (OECD. *The Future of Families to 2030*, 2011)
- ▶ In 1977, female students accounted for 49% of all college students. By 2017, this percentage had grown to 57%. (NCES, *Digest of Education Statistics*, 2018)
- Overall, women account for a minority of the world's researchers. (UNESCO Institute for Statistics, 2019)
- As the demand for workers grows, women who are entering the workplace are slowly changing the wage gap with male counterparts. (OECD. *The Future of Families to 2030*, 2011)
- ▶ Women represented 45% of students majoring in STEM fields in 2020, up from 40% in 2010 and 34% in 1994. (IPEDS)
- ▶ In the 1990s, women held about 35% of computer science jobs, today, about 24% of computer science jobs are held by women. (Code Girls United)
- ▶ 50% of 2019 Intel Science and Engineering (ISEF) finalists were girls. (NCWIT)

The Business Case for Diversity, Equity, Inclusion, and Belonging

- While STEM industries are booming, there is still a significant lack of diversity in these fields. (Women Love Tech)
- ▶ Improving ethnic and gender diversity in the U.S. technology workforce represents a massive economic opportunity, one that could generate \$470 to \$570 billion in new value for the tech industry and could add 1.2-1.6% to national GDP. (Intel, *Decoding Diversity*, 2016)
- ▶ While overall sentiment on diversity was 52 percent positive and 31 percent negative, sentiment on inclusion was markedly worse at only 29 percent positive and 62 percent negative. (McKinsey & Company, *Diversity wins: How inclusion matters*, 2020)
- ▶ A study of 1,500 employees found that nearly half said their companies could improve diversity, gender, race, and ethnicity. (Built In)
- Our nation's human capital substantially grows as more women, racial and ethnic minorities, and gay and transgender individuals enter the workforce. (Center for American Progress)
- ▶ Companies in the top quartile for racial and ethnic diversity are 30 percent more likely to have financial returns above their respective national industry medians. (McKinsey & Company, *Diversity Matters*, 2015)

Most Native American students are not educationally prepared to undertake a STEM degree in college

- ▶ Fewer than half of students taking the SAT meet the benchmarks, with results for several races and ethnicities falling even shorter. (College Board, *Delivering* Opportunities SAT Suite of Assessments Results 2016-17)
- Only 8% of ACT-Tested American Indian and Alaska Native (AI/AN) high school graduates meet college readiness and STEM benchmarks. (ACT.org)
- ▶ Fewer than half of American Indian high school students have a full range of math and science courses available at their schools. (Department of Education)
- According to AP Program Participation and Performance data, AI/AN students consistently scored lower than the national mean in biology, calculus, chemistry, computer science, physics and statistic subjects. (College Board, AP Program 2019)
- Only three out of 10 Al/AN students took any such Advanced Placement science course in U.S. Public Schools. (College Board, Report to the Nation, 2014)





Board Member – Deanna Burgart (Fond du Lac First Nation, Saskatchewan, Canada)

Canadian organization IndigeSTEAM, led by AISES Board of Directors member Deanna Burgart, is addressing the underrepresentation of Indigenous peoples in the sciences by making connections in disciplines such as art, architecture, and agriculture – areas where Native people have traditionally been innovators.

number crunching

AISES BY THE NUMBERS1

Snapshot of Today

- ▶ 6,325 Individual Members
- ▶ 18 Professional Chapters
- ▶ 198 College/University Chapters
- 3 Tribal Chapters
- ▶ 230 K-12 Affiliated Schools enrolling more than 55,000 Native Students
- ▶ \$14 Million in Academic Scholarships

2021²

- ▶ Annual Revenue: \$10,081,520
- ▶ How We Spent Our Funding:
 - Administration and Development = 14%
 - ▶ Programs = 86%

2020^{2}

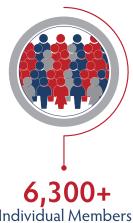
- Annual Revenue: \$7,971,495
- ▶ How We Spent Our Funding:
 - Administration and Development = 11%
 - ▶ Programs = 89%

2019²

- ▶ Annual Revenue: \$7,835,360
- ▶ How We Spent Our Funding:
 - Administration and Development = 17%
 - ▶ Programs = 83%

2018²

- Annual Revenue: \$7,107, 185
- ▶ How We Spent Our Funding:
 - Administration and Development = 13%
 - ▶ Programs = 87%







Professional Chapters



Chartered College and University Chapters





Affiliated Schools that Enroll More than 55,000 K-12 Native American Students



20172

- Annual Revenue: \$6,162,987
- ▶ How We Spent Our Funding:
 - ▶ Administration and Development = 18%
 - ▶ Programs = 82%

2016^{2}

- ▶ Annual Revenue: \$5,435,512
- ▶ How We Spent Our Funding:
 - ▶ Administration and Development = 15%
 - ▶ Programs = 85%

2015²

- ▶ Annual Revenue: \$3,131,024
- ▶ How We Spent Our Funding:
 - ▶ Administration and Development = 24%
 - ▶ Programs = 76%
- 1 Audited financial statements and IRS form 990s are available at www.aises.org.
- 2 Revenue and program funding reported in 2015-2021 audited financial statements.





advisory councils

AISES has seven advisory councils to advance its goals. We recognize the value of community and draw advice from private, public, tribal, academic, and professional members from across the U.S. and Canada. Members of these councils generally meet two to four times per year to provide expert and independent advice to their fellow advisory council members, and AISES liaisons and leaders.

Advisory councils are invaluable to AISES because they serve to improve AISES as an organization, promote initiatives, develop recommendations, assist in policy changes, and strengthen our presence and confidence in STEM sectors that includes government (federal and tribal), for profit, and nonprofit.

Academic Advisory Council (AAC)

The Academic Advisory Council provides guidance to AISES regarding academic matters such as grant proposal writing, educational and research project design, faculty careers, college admissions, and financial aid, postgraduate study and fellowship opportunities, research opportunities, and other higher education opportunities. Council members are active scholars who represent a variety of disciplines who meet regularly during the year.

Chair

Dr. Mary Jo Ondrechen (Mohawk), Northeastern University

Canadian Indigenous Advisory Council (CIAC)

The Canadian Indigenous Advisory Council consists of representatives from the Canadian Indigenous STEM community. The primary role of the CIAC is to advise AISES on issues of relevance and importance to its Canadian Indigenous (Status and Non-Status First Nation, Métis and Inuit) members. In addition, the CIAC works to assist AISES in creating opportunities for Canadian Indigenous members, and to support the AISES mission of substantially increasing the representation of Canadian Indigenous peoples in STEM fields.

Co-Chairs

Melanie Howard (Mohawk, Kanehsatake), Queen's University John Desjarlais, (Nehinaw Métis), Great Plains Contracting

Corporate Advisory Council (CAC)

The Corporate Advisory Council is a professional association of corporate representatives who support AISES in its mission of increasing the number of Native people in STEM. The CAC provides industry advice and counsel for the AISES Chief Executive Officer and the Board of Directors.

Co-Chairs

Laurence Brown (Navajo), Sandia National Labs Christopher J. Payne (Cherokee), The Boeing Company

Council of Elders

The Council of Elders share their wisdom and guidance with AISES students and the organization. The Council of Elders represent an integral aspect of the AISES philosophy of passing on knowledge to the next generation of leaders. The Council of Elders bring a depth of experience to their role of grounding the organization in tradition and providing guidance to the entire AISES family. We are proud of our partnership with these leaders and are grateful for their support. See the front cover of this report for the names of our esteemed Council of Elder members.

Government Relations Council (GRC)

The Government Relations Council is comprised of U.S. government employees. The GRC establishes and supports working relationships between federal government agencies and AISES, and identifies government resources, develops strategies, and promotes government careers in support of the AISES mission.

Co-Chairs

James Daugomah (Kiowa), National Oceanic and Atmospheric Administration Noller Herbert (Navajo), National Oceanic and Atmospheric Administration Marcellus Proctor (Piscataway-Conoy), National Aeronautics and Space Administration

Professional Chapter Council (PCC)

The Professional Chapter Council consists of representatives who provide guidance and representation for professional chapters, to advise AISES on issues of importance to professional chapters and their members, to increase opportunities for AISES professionals, and support the AISES mission.

Chair

Dr. Joseph Connolly (Haudenosaunee of the Onondaga Nation), National Aeronautics and Space Administration

Tribal Nations Advisory Council (TNAC)

The Tribal Nations Advisory Council consists of representatives from Tribal Nations in the U.S. and Canada. The TNAC advises AISES on issues of relevance and importance to Tribal Nations. In addition, the TNAC works to assist AISES in creating opportunities for Tribal Nation's citizens, and to support the AISES mission.

Chair

John Lewis (Gila River Indian Community), Avant Energy



circles of connection

College Chapter – Humboldt State University

Member of the AISES College Chapter at Humboldt State are busy. They support the Native American Studies Department's Food Sovereignty Lab. They work with the Indian Tribal Education personnel Program's cultural activities and contribute to workforce development efforts of the Northern California Indian Development Council, and more. They also network with tribes and Indigenous organizations that partner with federal agencies to offer research internships and science camps. Emerging from COVID, the chapter is now in a growth mode. AISES has become an important resource at Humboldt State. A student advisor said, "The long-standing mantra is to promote research and then take the show on the road to the AISES National Conference. They understand that AISES catapults their academic and career goals via networking to their next opportunity."

program highlights



Canada – Top Schools for Indigenous Students in Canada

Colleges and universities across Canada have committed to offering programs that specifically support their Indigenous students. According to Universities Canada, the primary association of Canadian institutions of higher learning, 71 percent of schools are increasing Indigenous leadership, 78 percent are offering activities such as talking circles or reconciliation training to promote cultural competency, and 65 percent are indigenizing research programs. You'll find opportunities for an excellent academic experience at universities and colleges throughout this vast country.

Student Access and Success: PK-12

Energy Challenge Competition

The AISES Energy Challenge is a two-phase energyspecific engineering fair designed to engage and encourage high school and middle school students to participate in the engineering process through creative, hands on problem solving. Middle and high school students may compete as individuals or as teams consisting of up to four students. The students/teams are evaluated using a rigorous scoring system and compete against a multitude of other teams. All students/teams must have an adult sponsor. The sponsor can be either a parent, teacher, or mentor. The top two middle school and top four high school projects will present their final projects and compete at the AISES National Conference.

Seeding Innovation: Expanding Computer Science for Native Students

In computer science education and degree completion, Native American students are significantly underrepresented in taking Advanced Placement Computer Science (AP CS) exams and completing computing degrees, which are critical precursors to entering the rapidly growing and high-paying computing occupations. To address educational and economic disparities among Native American communities and youth, AISES and the Kapor Center will build upon existing culturally relevant project-based CS courses, while also adding new partner schools each year for the next four years. Together, we work collaboratively with our partner school sites to create an engaging computer science curriculum, while also working with teachers and when possible, community members to integrate cultural traditions, language, stories, art, and more. It is a triballyspecific computer science curriculum that is built with and for the partner communities. This upcoming school year (2022-2023), we will be adding Artificial Intelligence and Machine Learning curriculum options to our partnering schools.



Learning Center

In 2022, AISES will develop and launch the AISES Learning Center, a comprehensive online website and resource directory for Indigenous PK-12 students, educators, and families that will help to advance equity and opportunity, specifically in STEM education. This resource includes the development and sourcing of culturally relevant curriculum that will further advance the education and resources readily available to Indigenous PK-12 students, educators, and their families. The primary goal of the project is to increase the future success of Indigenous students, by providing them, their educators, and families with lesson plans and educational resources needed to improve their STEM competencies early on, positively changing the trajectory of Indigenous PK-12 students.

National American Indian Science and Engineering Fair

The National American Indian Science and Engineering Fair (NAISEF) is a Society for Science and the Public (SSP) affiliated science fair and as such is part of the larger SSP fair network. The NAISEF differs from other SSP-affiliated fairs in that it is an in-person and virtual science fair which allows access for students who might not otherwise be able to participate. Unlike live fairs, virtual fairs do not require travel as the fair and judging are conducted online and via phone or video conference. Participants submit their projects as videos and slideshows. Students from grades 5-12 can participate in the NAISEF. There are two categories for entrants: Senior Division (grades 9-12) and Junior Division (grades 5-8). AISES awards cash prizes to the winners of each division and winners are provided support to travel to and compete in the Regeneron International Science and Engineering Fair that is the world's largest international PK-12 science competition held in a major U.S. city.

National Conference STEM Activity Day

Supported by the Boeing Company, this fun, interactive day of activities includes hands on STEM activities for high school students and educators provided by AISES High Tech Partners. STEM Activity Day also features a Marketplace where PK-12 students can visit a variety of booths to learn more about AISES PK-12 opportunities and gain valuable professional development skills such as resume building, college application tips, learning about AISES opportunites, and more!



Native Financial Cents: Curriculum and Experience

With funding from the Wells Fargo Foundation, AISES created the "Native Financial Cents: Supporting Financial Capability for Native Americans" (NFC) program; culturally contextualizing through supplementation of the Wells Fargo Hands on Banking curriculum to build the financial capability of Native youth and young adults. AISES developed the NFC curriculum to be used with students from primary school through college. The curriculum is deployed by AISES college students, professionals, educators, and others who provide train-the-trainer trainings or direct training to students within their communities. AISES is developing the NFC "Experience," where students will have a hands on opportunity to move through stations and see how financial literacy applies to their future and their communities. As students travel through different pathways, they will use critical thinking to help evaluate their financial health and prepare for expected and unexpected financial events.

Next Generation of Native Coders

The Intel funded Next Generation of Native American Coders initiative developed the Applied Computer Science Principles and Career Readiness course in 2018, first implementing the course at two schools on the Navajo Nation during the 2018-2019 academic year. The course is a Computer Science Career and Technical Education curriculum that engages students and prepares them for computer science degrees and careers through hands on independent projects, technical education integrating Native culture, interactive CS skill-building activities, professional and peer mentorship, and college, career, and leadership development. With Intel's support, this AISES developed course has since been implemented at four additional high schools that serve Indigenous students located within California, Oregon, and Arizona.

Paths to Opportunities Newsletter – Student Edition

The Paths to Opportunities newsletter is distributed monthly to more than 15,000 AISES members, subscribers, and supporters. This must-read digital newsletter is for PK-12, college, and graduate students. It contains news of student opportunities along with editorial content targeted to the unique student demographic of Indigenous North Americans in STEM disciplines. Each issue has news from the AISES family on timely topics and upcoming events. The student edition includes news of scholarships, fellowships, and internships, plus articles filled with tips and advice to help students determine a major or career path in a STEM-related field.

SPRK-ing Interest in STEM and Computer Science

The SPRK-ing program combines robotics and computer programming to increase awareness and interest in STEM and Computer Science (STEM+C) among Indigenous students. The program engages students in hands on STEM+C activities powered by Sphero technology, created by AISES and tailored to Indigenous students. AISES has partnered with the toy company Sphero to bring their educational spherical robot to PK-12 schools serving Indigenous students across the country. Sphero is easily integrated into STEM curricula, allowing even the youngest students to learn programming, engage in hands on STEM+C activities, bridge technology and the arts, and enjoy creative discovery with their classmates. The goal of this STEM+C program is to inspire young Indigenous minds to pursue and excel in their STEM and CS education. Additionally, AISES hopes to build the capacity of educators and schools to provide cutting-edge technological STEM+C experiences for its students by providing teacher trainings, lesson plans, and all the equipment necessary to incorporate Sphero technology in the classroom. The SPRK program is funded by generous contributions from Motorola Solutions Foundation, General Motors, Comcast, and San Manuel Band of Mission Indians.

STEM College and Career Readiness Programs

AISES has developed a College and Career Readiness (CCR) Guidebook specifically addressing STEM education and careers and the unique needs, values, and workforces of Indigenous students and tribal communities. The CCR guidebook and programming aims to better prepare Indigenous students to attend college and major in STEM, thereby helping address the significant underrepresentation of Indigenous people in STEM studies and careers. The CCR resources will provide students and educators with STEM college and career assessments, an overview of STEM careers, STEM careers pertinent to tribal communities, a college assessment tool, college application guide, scholarships for Indigenous students, resume and interview training, and basic financial literacy. AISES will also develop tools for implementing the CCR Guidebook both in and out of the classroom. AISES STEM CCR programs are funded by the Northwest Area Foundation, Meyer Memorial Trust, The Helen Powers Fund, Cherokee Preservation Foundation, 3M, and ANA SEDS.





electrical engineering and served as president of the school's AISES College Chapter, interned

at IBM, where he accepted a job offer.





College – Joseph Lance Casila (Guamanian-Filipino)

Completing a bachelor's degree is impressive, but Joseph Lance Casila completed three in four and a half years while at the University of Guam - a BS each in math, chemistry, and biology. For four summers in a row, Casila participated in research opportunities that took him off-island including internships at the National Institutes of Health, and the Broad Institute of MIT and Harvard. Now at the University of Pennsylvania in the bioengineering PhD program, Casila will be working at the Children's Hospital of Philadelphia on research related to tissue engineering and drug delivery. He wants to create more academic opportunities for underrepresented students who may not know what they're capable of or what resources are available to them.

Student Access and Success: College

College and Career Fair

An important part of every National Conference, the College and Career Fair is the largest event of its kind in Indian Country. Hundreds of corporations, government agencies, academic institutions, tribal industries, and nonprofits participate to share information about the many opportunities available for students and professionals.

College and University Tours

AISES National Conference participants can take part in events like college/university tours and industry tours. Students receive presentations on admissions, financial aid, and curriculum as well as campus tours with current students who talk about student life, classroom resources, and technology. The behind the scenes look at leading colleges/universities generates wonder and inspiration to Indigenous students who are transitioning from high school in preparation for college.

Full-Circle Mentorship

AISES Full-Circle Mentorship program, supported by the Jack Kent Cooke Foundation, program matches college students and professional AISES members in traditional and peer-to-peer academic and career mentoring. The mentorship program is open to college students and professionals at all stages of their career. Mentees will gain practical advice, encouragement, and support, learn from the experiences of others, increase their social and academic confidence, develop skills and strategies for academic and career issues, identify goals and establish a sense of direction, and gain valuable insight into the next stage of their education and career. Mentors will improve communication and interpersonal skills, develop leadership and management qualities, increase their confidence and motivation, engage in a volunteer opportunity valued by employers, enhance one's resume/CV, reinforce and gain recognition for their skills and experience, and feel an improved sense of fulfillment and personal growth.

Internships

The AISES Summer Internship program provides students with a 10week applied summer work experience at a business or government agency and an opportunity to explore career options and to develop professional level skills. Interns gain resume-building skills and develop professional networks. In some cases, students create their own professional internship program within their discipline of study and within the parameters of the host agency. 2021 internships partners included BMM Testlabs, USDA Forest Service, Forest Products Laboratory, and Aristocrat.

Scholarships

AISES helps students move forward in their educational journeys by providing a broad range of scholarship opportunities. Scholarships help students acquire skills and training that will help them meet the unique STEM needs of our communities. Our scholarship process is enhanced by our partnership with Indigenous Education Inc. (Cobell Scholarship Fund). This partnership provides a one-stop shop for students to complete information that aligns their goals with scholarships from other potential organizations that streamlines scholarship access. Some of our current scholarship program partners include 3M, BNSF Railway, Chevron, Intel, Aristocrat, Phillips 66, San Manuel Band of Mission Indians, The Boeing Company, ExxonMobil, Lockheed Martin, Northrop Grumman, Splunk, Environmental Science Associates (ESA), GeoComply, and the Society of Professional Engineering Employees in Aerospace.

USAA Veterans

Partnering with USAA, AISES is developing and supporting a cohort of veteran Indigenous undergraduate students pursuing STEM degrees. This year-round program provides academic scholarships, academic and professional development opportunities, as well as social and cultural support and resources. Additionally, AISES provides its veteran scholars with connections to STEM employers for mentorship, internship, and career opportunities to mitigate attrition from STEM academics into STEM focused careers. Workforce preparedness in the fields of STEM will prepare veteran Native leaders to positively impact their communities.



Career Support and Development

AISES is dedicated to supporting its professional members in STEM. We support early, mid, and executive professionals in STEM fields through professional development, career opportunities, networking, research support, and opportunities to mentor and support Native students in STEM. AISES support does not end once a student graduates from college and enters a STEM career but rather provides ongoing career and professional development programming to help Native STEM professionals grow and succeed in their chosen career fields. Additionally, AISES offers a multitude of opportunities for professionals to "give back" through mentoring and supporting Indigenous STEM students. Programming for professionals includes mentoring of students, scholarship review, research and science fair judging, serving as speakers and trainers at AISES events, advisory council service, professional development programming, career fair, professional awards, or engage in a growing professional chapter network across the U.S. and Canada.

Advancing Agricultural Science Opportunities for Native Americans (AASONA)

With funding from the Native American Agriculture Fast Track Fund (NAAFTF), AISES developed the AASONA program to support agricultural science scholarships and education for Native Americans in farming and ranching professions. Through this project, AISES will provide comprehensive support to current and potential Native American farmers and ranchers. Thirty college students will participate in a cohort and receive scholarships and research awards as well as travel support to attend AISES national events. The cohort also includes ten professionals in agricultural fields to mentor cohort college students.

AISES Energy Workforce Development

AISES received a U.S. Department of Energy (DOE) Minority, Education, Workforce, and Training Program project to develop and implement the AISES Energy Workforce Development (AEWD) cohort program for 24 Native two-year college students majoring in energy, energy conservation, business, or environmental fields and attending Minority Serving Institutions (MSIs) nationwide to assist with transitioning the students into four-year degree programs in STEM. To achieve the goal of increasing the number of Native students who earn four-year degrees and enter the energy workforce, AISES has established a cohort of 24 Native two-year students, created a mentorship network of students and professionals in the Energy workforce and related fields sector, provided scholarships to Native students to increase retention in undergraduate studies, educational support services to ensure two-year students transfer to four-year institutions, and professional development to increase persistence in Energy studies and careers.

Career Hub

The AISES Career Hub is the premier way to connect with organizations who are hiring Indigenous STEM professionals. Visitors can search opportunities in academia, government, nonprofit, and other STEM industries. Employers can post their job openings to attract qualified Native STEM professionals through multiple channels and access to a resume database to find the right candidate for the job.

Grow with Google

AISES is a recipient of 250 scholarships for the Grow with Google Career Certificate Program to distribute to its community members. The Google Career Certificates are a suite of flexible online training programs available on Coursera.org. These certificates, built and taught by Google, are designed to provide learners from all backgrounds with job-ready skills within six months (can be completed quicker if learning full-time). There are four specializations designed for anyone with no relevant experience - data analytics, user experience (UX) design, project management, and IT support.

Mentorship Opportunities

Many AISES programs aimed at supporting Indigenous college students also provide professionals with opportunities to serve as mentors, including AASONA, AWED, LTP, USAA, and Next50 Initiative. AISES professionals are also able to participate in the Full-Circle mentorship program to receive professional development from peers or later-career professionals.

Native Financial Cents: Financial Counseling Certification with AFCPE

AISES in partnership with the Association for Financial Counseling & Planning Education (AFCPE) and Wells Fargo aims to improve Native communities' access to an array of resources supporting youth, adults, and whole families in their efforts to reach and maintain financial security. Fifteen Native professionals have been selected to participate in the AFCPE's self- guided financial counseling certification program. The selected cohort will convene virtually to receive culturally contextualized components of the curriculum and support in their preparation for the certification exam. Upon certification, the FCCP cohort will be equipped to assist community members in the following areas: developing and utilizing household budget planning tool setting personal financial goals, building credit, reducing debt, instituting retirement plan and/or college planning, and easing financial stress.

Next50 Initiative

Committed to improving the lives of older adults and specifically addressing the unique needs of Indigenous people over the age of 50, AISES is creating a cohort of 10 Colorado residents to receive in-person and online professional and social support. AISES is providing professional development sessions aimed to increase the cohort's understanding of contemporary technical skills necessary to enter and thrive in today's technology-driven workforce. To ensure the program improves their quality of life while increasing the financial earning potential of cohort participants during the program and beyond the grant cycle, AISES provides the following to each member: mentorship, skill building professional development, connection to AISES partners (i.e. leaders in industry, academia, philanthropy, and tribal governments and enterprises), and professional networking. The Next50 program focuses on providing economic mobility through entry, re-entry, or advancement in all types of careers for professionals over age 50.



College – Leah M. L. Creaser (Mi'kmaq-Acadia First Nation)

Leah M. Creaser is completing a bachelor's degree in biology with a focus on fish science at Acadia University in Nova Scotia. Creaser grew up in the small, rural town of Centreville in Nova Scotia's Anapolis Valley. As a child she didn't appreciate how much her family struggled. Looking back, she realizes the lengths her parents went to in order to support their children, and their struggles have had a significant impact on her today. After her second year of university, she landed a summer job in a fish laboratory, and a light bulb went off. Working with fish became Creaser's passion, one she knew she needed to follow. Creaser was one of 10 students across Canada awarded a prestigious 3M National Student Fellowship. Her goal is to obtain a PhD in biology focusing on fish science and become a professor, incorporating Indigenous knowledge into her research. She enjoys a challenge and is ready for what lies ahead.



Opportunities Board

The AISES Opportunities Board connects talent with online resources through the AISES website. It is where opportunity seekers can find scholarships, internships, trainings, conferences, and other opportunities targeting Indigenous STEM students and professionals. Recruiters can reach our talented pool of members and post events, fellowships, or interesting projects - at no cost - to attract qualified Indigenous STEM students and professionals. For a minimal fee, recruiters can upgrade their opportunity for additional outreach to engage candidates through multiple channels.

Paths to Opportunities Newsletter - Professional Edition

The Paths to Opportunities newsletter is for STEM professionals and educators. It includes news of career development, internships, and current employment opportunities with outstanding organizations, agencies, universities, and corporations STEM fields, as well as articles and tips on building a flourishing career.

Professional Chapters

AISES has Professional Chapters across the United Stated and Canada. Professional Chapters give a community to Indigenous STEM professionals who then work together to create and support community events and activities. Professional Chapters work with area schools to mentor students, speak to classes, and participate in other activities. They also fund raise to support local students and other members to travel to conferences. Professional Chapters provide a network of professionals in a region so they can connect with other Indigenous STEM professionals working together to advance the AISES mission.

STEM & Business Initiatives

Building upon the Growing Native STEM Businesses in the West (GNSBW) cohort-model program, funded by the Minority Business Development Agency (MBDA), AISES will further develop its programming to increase the number of STEM businesses owned by American Indian, Alaska Native, and/or Native Hawaiian professionals or college students. With funding from the Johnson Scholarship Foundation, AISES will recruit a new cohort of Indigenous entrepreneurs to support their business development. AISES continues to highlight STEM and Business sessions at the AISES National Conference. AISES is also adapting its STEM & Business workshop series developed for the GNSBW program to meet the needs of Southwestern Oklahoma tribal communities as part of the newly awarded ANA SEDS grant.

Workforce Development

Women of Color in Engineering Collaborative

AISES has been a collaborator in the Women of Color in Engineering Collaborative, a partnership network of professional engineering associations and STEM-based companies dedicated to addressing systemic barriers that prohibit equitable work environments for women engineers of color. This network aims to create a shared vision focused on dismantling systemic barriers that impede the retention and advancement of women engineers of color and develop a strategic plan to guide collaborative activities that connect and energize people, cross divides, and drive systemic change toward equity.

50K Coalition – 50,000 Diverse Engineers by 2025

AISES, along with the Society of Women Engineers, National Society of Black Engineers, and the Society of Professional Hispanic Engineers, comprise the Leadership Circle of the 50K Coalition whose mission is to increase the number of diverse engineering degree recipients to 50,000 by 2025. The Coalition received support from the National Science Foundation (NSF) INCLUDES Initiative to bring together universities, industry partners, and other professional societies working toward diversity and inclusion within engineering to join forces and pursue areas of synergy, explore lessons learned, and significantly increase the number of diverse engineering graduates. In addition to the 50K Coalition, AISES has partnered with other minority serving engineering professional societies on another NSF INCLUDES-funded project to increase the diversity of the engineering professoriate by providing professional development to graduate students, postdoctoral fellows, and early-career faculty in all engineering fields.

NSF INCLUDES Planning Grant

The INCLUDES Planning Grant addresses the challenge of underrepresentation of Indigenous professionals with four-year STEM degrees. The mission of the planning grant is to solidify the shared vision and necessary partnership strategy to successfully develop a transfer pathway model for Indigenous students in STEM. The proposed planning grant will bring together tribal college, community college, and four-year institutional representatives from across the country to tackle the issue of successfully transferring more Indigenous students in STEM to four-year institutions.

Rematriation: Indigenous Womxn in STEM - Henry Luce Foundation

AISES received a planning grant from the Henry Luce Foundation to support increasing representation of Indigenous womxn in STEM leadership positions. Rematriation: Indigenous Womxn in STEM Leadership project builds on current efforts to empower Indigenous people, promote Indigenous knowledge, and reestablish Indigenous stewardship of the land. AISES believes Indigenous womxn who should be supported to reclaim leadership as most Indigenous cultures are matriarchs and womxn who traditionally held decision-making roles. Delving deeply into understanding the supports, institutional changes, cultural understanding, training, policies, and processes necessary to allow Indigenous womxn to reclaim leadership roles in STEM, AISES intends to move beyond the common understanding of womxn's needs in the workplace and focus more specifically on ensuring STEM workplaces understand and embrace the cultural significance of womxn in leadership as this understanding and acceptance is foundational to the persistence of womxn in STEM leadership. The final product of the planning grant will be an action plan for the Rematriation project and conducting outreach with partners to gauge commitment and participation in implementation.

LEAPS

The LEAPS project aims to test approaches to achieving culture change with respect to inclusion of Indigenous representation, from membership to Indigenous knowledge. This project builds off the successful, NSF funded "Lighting the Pathway to Faculty Careers for Natives in STEM" project (LTP). AISES has developed an evidence base for maintaining persistence in STEM among Indigenous scholars through culturally connected mentorship, community building, and professional development centering on Indigenous values based on the LTP project. LEAPS seeks to expand the application of these findings outside of AISES, supporting the diversity and inclusion efforts of the Botanical Society of America, Entomological Society of America, and Ecological Society of America, to facilitate a cultural shift in these organizations to re-imagine how they work with Indigenous scholars and communities to promote and advance Indigenous voices and knowledge within their respective fields. In partnership with other biology professional societies, the project will form a peer network group to address inclusion of Indigenous voices across biology disciplines.

Research

Poster and Oral Research Presentations and Competitions

Middle and high school, undergraduate, and graduate students and professionals showcase their STEM research through oral and poster presentation sessions during the AISES National Conference. AISES research poster presentations and competitions are the highlight and representation of months of hard work where individuals present their findings to an audience of STEM students and professionals. These presentations give students and professionals the opportunity to share their research and receive valuable feedback on their work. Awards are given for exceptional research presentations.

American Indian/Alaska Native College Affordability and TCU Sustainability

In collaboration with the other national Native scholarship providers, AISES is engaged in a research project designed to better understand two critical areas in relation to American Indian and Alaska Native (AIAN) Native access to and success in higher education. The project explores college affordability among current and former AIAN college students, graduates, and non-completers attending both Tribal Colleges and Universities (TCU) and non-Tribal Colleges and Universities and TCU sustainability, which includes the development of high-quality credentials at Tribal Colleges and Universities, funding and student access and completion.

STEM Portraits

Native STEM Portraits identifies and aggregates what is known of the challenges and supports specific to Native participation in STEM careers, conducting research across the spectrum from undergraduates to professionals (using surveys, photo elicitation, focus groups, and interviews), and broadly and imaginatively disseminates the information. Activities include a literature scoping review, a longitudinal study, and extensive dissemination into a broad base of constituencies. Based on the advice of partners, AISES the project organized its focus in three areas: computer sciences and engineering; biological sciences; and mathematics, physics, and earth sciences.

Gifts of Knowledge Study

The Gifts of Knowledge study builds on the research objectives of the Lighting the Pathway (LTP) project to test the efficacy of interventions that "scale up" key aspects of the LTP project. The study explores intensive professional development intervention relative to a control group, to understand the mechanisms that explain the intervention effects. The project assesses the degree to which key psycho-social factors mediate the relationship between the group differences and long-term integration into the professional community, greater career persistence, and higher rates of mentorship of future Indigenous scholars.



circles of connection

Early AISES Visionary - Al Qöyawayma

Al Q, a noted Hopi potter and sculptor, spent a long, productive career in mechanical and systems engineering across several professional arenas. For Al Q, creativity is an essential component of the scientific method, and to access and use creativity effectively, scientists need a foundation of practical skills combined with broader knowledge. For professional scientists, venturing beyond their well-practiced working habits is a way to begin cultivating creativity. Al sees creativity as combining physical and philosophical processes, with the philosophical process involving as much exploration as the physical. Art and science are not singular, isolated entities, and when there are opportunities for cross-pollination, profound innovations are possible.

Tribal Nations

Cheyenne River Sioux Tribe - Native Youth Community Project

In collaboration with the Cheyenne River Sioux Tribe, AISES seeks to increase interest and engagement in STEM subjects among students of all ages, build educators' capacity to support students in STEM, and generate Cheyenne River Sioux Tribe parent and community support of and engagement in STEM studies and careers. AISES provides a wide variety of events and activities such as AISES led in-class lessons, professional development trips for educators, STEM summer enrichment camps for kids, community STEM nights, college preparation workshops, career-readiness webinar series, STEM field trips, and support for after-school AISES Affiliate Club activities.

Eastern Band of Cherokee Indians

AISES and the Eastern Band of Cherokee Indians (EBCI) continue to partner on many initiatives aimed at advancing the 21st century skills and career readiness of EBCI students, including hosting the 2019 AISES Leadership Summit in Cherokee, North Carolina. AISES continues to work with EBCI and Cherokee Central Schools to develop and implement culturally relevant, engaging STEM and Computer Science curricula. Most recently, AISES has adapted its College and Career Readiness curriculum and guidebook to specifically address and support a future-ready workforce among the EBCI.

Southwestern Oklahoma Tribes

AISES in partnership with Comanche Nation, Kiowa Tribe, and Wichita and Affiliated Tribes were awarded an Administration of Native Americans Social and Economic Development Strategies (ANA SEDS) grant. AISES and the Coalition of Southwestern Oklahoma Tribes Economic Development Partnership project is a multi-tiered Economic Development project focused on Asset Building, Career Pathways, and Entrepreneurship. AISES and its tribal partners will collaborate on the development and implementation of programs in three focus areas—Asset Building, Career Pathways, and Entrepreneurship—to meet the economic development needs of the tribal communities of southwestern Oklahoma. The partnership identified these three economic development programmatic components based on the current community condition including disparities in income, employment, educational attainment, money management, and businesses owned and operated by tribal citizens.

Other Initiatives

Comcast/NBC Universal Public Service Announcements

Since 2017, the Comcast Foundation has provided valuable in airtime to broadcast two Public Service Announcements (PSAs) about AISES. The PSAs are designed to convey how, through our work at AISES, intergenerational traditional Native American cultural knowledge is woven together with new ideas to generate innovative technology and promote ideas and people that create a better world for everyone. In 2021, the PSAs ran in multiple markets on multiple channels and was valued at close to \$2 million. The PSA videos can be viewed on the AISES Youtube channel along with numerous other videos drawing attention to our work.



program sponsors



Advancing Agricultural Science Opportunites for Native Americans (AASONA)

▶ Supported By: Keepseagle Settlement - Native American Agriculture Fund

Advancing STEM College and Career Readiness for EBCI Students

▶ Supported By: Cherokee Preservation Foundation

AISES and the Coalition of Southwestern Oklahoma Tribes Economic Development Partnership

▶ Supported By: Administration of Native Americans Social and Economic Development Strategies (ANA SEDS)

AISES Energy Workforce Development

▶ Supported By: U.S. Department of Energy

AISES Full Circle Student Support Services

▶ Supported By: Jack Kent Cooke Foundation

AISES Learning Center

▶ Supported By: Northrup Grumman

American Indian and Alaska Native College Students: Building Collaborative Data Capacity and Investigating College Access, Persistence, and Graduation Success

► Supported By: Spencer Foundation

ASSIST Travel Grant Program

▶ Supported By: National Science Foundation

ATA Memorial Scholarships

▶ Supported By: San Manuel Band of Mission Indians; The Boeing Company; Geico; Nancy & Lawrence Gustein; Stantec Consulting; NV5; Oracle; Northrup Grumman; Phillips 66; Henkel; Rosemary Schaefer; The INGAA Foundation, Inc.; Leslie Qöyawayma Memorial Scholarship Fund; Bert and Candace Forbes

College Affordability among Indigenous Students in Higher Education

▶ Supported By: Lumina Foundation

College and Career Readiness in STEM for Indigenous Students of Oregon

▶ Supported By: Meyer Memorial Trust

Computer Science Education Convening

Supported By: National Science Foundation

Computer Science Research Infrastructure Convening for Native-serving Institutions

► Supported By: National Science Foundation

Energy Challenge

▶ Supported By: Northrup Grumman

Gifts of Knowledge Study in Collaboration with UCSF

▶ Supported By: National Institutes of Health

Growing Opportunities for Older Indigenous Professionals

Supported By: NextFifty Initiative

Internships

Supported By: Bonnevile Power Administration, Aristocrat, BMM, and USDA Forest Products Lab

Lighting the Pathway to Faculty Careers for Natives in STEM

▶ Supported By: National Science Foundation

NAISEF

Supported By: USDA NRCS

Native Financial Cents - Financial Counseling

▶ Supported By: Wells Fargo

Native Financial Cents for Umatilla Schools

▶ Supported By: Wildhorse Foundation

Native Financial Cents: Supporting Financial Capability for Native Americans Program

Supported By: Wells Fargo Foundation

Native STEM Portraits

Supported By: National Science Foundation

Native Youth and Community Project Grants in Partnership with the Cheyenne River Sioux Tribe and Community

▶ Supported By: Office of Indian Education, US Dept of Education

Next Generation of Native American Coders: Applied CS Principles and Career Readiness Course

Supported By: Intel

NSF INCLUDES Planning Grant: Increasing the transfer rate of Native American STEM students from two-year to four-year educational institutions

Supported By: National Science Foundation

Rematriation: Indigenous Woman in STEM

Supported By: Henry Luce Foundation

Seeding Innovation: A Culturally-Relevant Computer Science Education Program to Expand Equity, Access, and Opportunity for Native American High School Students

Supported By: National Science Foundation

SPRK-ing Interest in STEM + Computer Science

Supported By: Motorola Solutions Foundation, General Motors, Comcast NBCUniversal

STEM and Business Initiatives

Supported By: Johnson Scholarship Foundation

Tatsinupi College and Career Readiness Program

▶ Supported By: Helen A. Powers, 3M







Aristocrat

Aristocrat - Undergraduate Students

Lauren Etsitty (Navajo Nation)

Ben Duhrsen (Chippewa Cree Indians of the Rocky Boy Reservation)

Trent Dedman (Navajo Nation) Hope Chambers (Chickasaw Nation) Trinity Manuelito (Navajo Nation) Jackson Caves (Choctaw Nation) Tyler Shurley (Navajo Nation) Katherine Sharp (Cherokee Nation) Laine Harvey (Navajo Nation) Athena Archuleta (Pueblo of Tesuque)

Aristocrat - Graduate Students

Tully O'Leary (Cheyenne River Sioux Tribe)

Kyle Yoshida (Native Hawaiian) Serdjan Rolovic (Osage Nation) Chase McNiel (Navajo Nation)

Matthew Johnson (Little River Band of Ottawa Indians)

BNSF Railway

Cole Walker (Cherokee Nation) Eric Chang (Delaware Nation) Lucy Camblin (Osage Nation) Dalton Barnard (Cherokee Nation) Zachary Inman (Cherokee Nation) Kara Derrick (Cherokee Nation) Maycie McDougal (Choctaw Nation)

Maysyn Sorenson (Red Cliff Band of Lake Superior Chippewa Indians)

Nathan Stewart (Crow Tribe) Reese Dyer (Choctaw Nation) Remington Ward (Cherokee Nation) Emma Boykin (Karuk Tribe)

Jenna Allen (Turtle Mountain Band of Chippewa Indians) Casey Freeman (Sault Ste Marie Tribe of Chippewa Indians)

Benjamin Davis (Pawnee Nation) Blake Marlow (Tule River Indian Tribe) Trent Dedman (Navajo Nation)

Chevron

Blaze Goldstein (Seminole Nation) Cole Walker (Cherokee Nation) Ethan Castillo (Pueblo of Acoma) Henry Camblin (Osage Nation) Ethan Darwin (Navajo Nation)

Mickki Garrity (Citizen Potawatomi Nation)

Colton Jim (Navajo Nation) Benjamin Davis (Pawnee Nation) Storm Mata (Muscogee Creek Nation) Shiyazh Pete (Navajo Nation) Elizabeth Mann (Choctaw Nation) Brad Butterfly (Blackfeet Tribe) Korbin Schwab (Cherokee Nation)

Matthew Johnson (Little River Band of Ottawa Indians)

Carly Hudson (Confederated Tribes of the Coos Lower Umpqua and

Siuslaw Indians)

Madison Phelps (Sisseton Wahpeton Oyate)

Trent Dedman (Navajo Nation)

James Hankinson (Citizen Potawatomi Nation)

scholarships

Intel

Intel - Native Next Generation Students

Joshua Parker (Native Hawaiian) Benjamin Davis (Pawnee Nation)

Sophia Morin (Turtle Mountain Band of Chippewa Indians)

Logan Logg (Navajo Nation)

Madeline Gupta (Sault Ste. Marie Tribe of Chippewa Indians)

Andrea Storer (Native Village of Barrow Inupiat Traditional Govt.)

Blake Marlow (Tule River Indian Tribe) Karis Black (Navajo Nation)

Blaze Goldstein (Seminole Nation)

Maxum Staples (Wampanoag Tribe of Gay Head)

Intel - Undergraduate Students

Adarius Begay (Colorado River Indian Tribes)

Adrian Nez (Navajo Nation) Audra Benally (Navajo Nation) Timothy Drury (Cherokee Nation)

John Eddy (Miami Tribe)

Kordell Schrock (Sac & Fox Tribe of the Mississippi)

Laurence Merculief (Saint Paul Island) Leticia Cervantes (Iowa Tribe) Shawn Ray (Navajo Nation) Terric Abella (Native Hawaiian) Trinity Manuelito (Navajo Nation) Turner McCoy (Muscogee Creek Nation)

Bo Rogers (Cherokee Nation) Katherine Sharp (Cherokee Nation)

Intel - Graduate Students

Daniel Glover (Muscogee Creek Nation) Durante Pioche (Navajo Nation) Ellis Brown (Osage Nation)

George Lemos (Oglala Sioux Tribe) Jeffrey Omidvaran (Pueblo of Taos)

Kayla Keepseagle (Standing Rock Sioux Tribe)

Kurt Noe (Native Hawaiian) Kyle Yoshida (Native Hawaiian) Lydia Doza (Alaska Native) Mariah Pioche (Navajo Nation)

Matthew Johnson (Little River Band of Ottawa Indians)

Serdjan Rolovic (Osage Nation)

Tully O'Leary (Cheyenne River Sioux Tribe)

AASONA

Eva Burk (Nenana Native Association) Mckenzie Cummings (Lumbee) Echo Ecoffey (Oglala Sioux Tribe) Miranda Buckley (Cherokee Nation) Ashleigh Mcintosh (Caddo Nation)

Emiliano Mclane (Te Moak Tribe of Western Shoshone Indians)

Joelene Tamm (Squaxin Island Tribe) Avery Tilley (Cherokee Nation)

A.T. Anderson

A.T. Anderson Scholarships were supported by the following funders: San Manuel Band of Mission Indians; The Boeing Company; Geico; Nancy & Lawrence Gustein; Stantec Consulting; NV5; Oracle; Northrup Grumman; Phillips 66; Henkel; Rosemary Schaefer; The INGAA Foundation, Inc.; Leslie Qöyawayma Memorial Scholarship Fund; and Bert and Candace Forbes

Kate Kouplen (Delaware Tribe of Indians) Adriano Tsinigene (Navajo Nation)

Anabel Baker (Samish Indian Nation) Christian Miller (Navajo Nation)

Emma Saucerman (Oglala Sioux Tribe)

Isabel Garcia-Gallegos (Kiowa Indian Tribe)

Greyson Palmer (Cherokee Nation)

Sky Harper (Navajo Nation) Nizhoni Sutter (Navajo Nation)

Karly Thomas (Chickasaw Nation)

Hanna Ott (Cheyenne and Arapaho Tribes)

Necole Begay (Navajo Nation)

James Fackrell (Snoqualmie Indian Tribe)

Chandler Watson (Navajo Nation) Miko Brandon (Chickasaw Nation)

Hannah Norberto (Navajo Nation)

Jacalyn Adams (Iowa Tribe)

Samantha Eddy (Navajo Nation)

Antavia Paredes-Beaulieu (Minnesota Chippewa Tribe)

Jaelyn Dove (Lumbee Tribe)

Rourke Darwin (Navajo Nation)

Landon Estes (Pawnee Nation)

Joanna Cooley (Houma Nation)

Gabrielle Vargas (Cherokee Nation)

Elizabeth Falcon (Cherokee Nation)

Danilo Caron (Canadian First Nations) Kimberlee Blevins (Three Affiliated Tribes of

The Fort Berthold Reservation)

Sheridan Cowboy (Navajo Nation)

Brandon Dennison (Navajo Nation)

Callie Singer (Navajo Nation)

Justin Kaye (Navajo Nation)

Maveric Abella (Native Hawaiian)

Sarah Rasmussen-Rehkopf (Quileute Tribe)

Carl Old Person Iii (Blackfeet Tribe)

Anne Brien (Turtle Mountain Band of Chippewa Indians)

Anna Gregory (Muscogee Creek Nation)

Darrell Proctor li (Muscogee Creek Nation)

Desirae Barragan (San Gabriel Tribe)

Mckenna Roan (Cherokee Nation)

Kiera Charley (Navajo Nation) Noelani Villa (Kaw Nation)

Christopher Sweeney (Choctaw Nation)

Joshua Tatarian (Choctaw Nation)

Kristy Kinlicheenie (Navajo Nation)

Brooke Sangray (Little Shell Tribe of Montana)

Joseph Wilkinsin (Standing Rock Sioux Tribe)

Reginald Oxendine (Lumbee Tribe)

Hozshona Post (Kiowa Indian Tribe)

Payton Dean (Cherokee Nation)

Arden Crowe (Choctaw Nation)

Ellie Mora (Nome Eskimo Community)

Liyanna Lee (Navajo Nation)

Robert Kennah (Shoshone Tribe)

Peter Thais (Saint Regis Mohawk Tribe)

Owen Riedesel (Métis Nation of Ontario)

Paige Nakai (Navajo Nation)

Lexi Snyder (Sault Ste Marie Tribe of Chippewa Indians)

Lacie Montgomery (Comanche Nation)

Alan Sendlakowski (Native Hawaiian)

William Hansard (Chickasaw Nation)

Sandra Shaefer (Cherokee Nation)

Kai Mattinas (Constance Lake First Nation)

Katie Degeyter (Muscogee Creek Nation)

Erin Morin (Turtle Mountain Band of Chippewa Indians)

Jaylyn Bad Horse (Lower Brule Sioux Tribe)

Torrance Loudner (Crow Creek Sioux Tribe)

Nathan Sudderth (Choctaw Nation)

Never Redhair (Navajo Nation)

Kirra Truesdale (Choctaw Nation)

Ashley Davis (Turtle Mountain Band of Chippewa Indians)

Grace Brasfield (Cherokee Nation)

Adam Hoekstra (Turtle Mountain Band of Chippewa Indians)

Sarah Briery (Cherokee Nation)

Isabel Dean (Chickasaw Nation)

Josie Van De Klashorst (Osage Nation)

Jolie Beentjes (Navajo Nation)

Hailey James (Fort Belknap Indian Community)

Toahani Chief (Navajo Nation)

Tyler Hoilien (Chickasaw Nation)

Kaden Sangray (Little Shell Tribe of Montana)

Jaxen Davis (Navajo Nation)

Vanessa Charley (Navajo Nation)

Miya Chavez (Native Hawaiian)

Destany Pete (Shoshone Paiute Tribes of The Duck Valley Reservation)

Taylor Heaton (Central Council of The Tlingit & Haida Índian Tribes)

Owen Gustafson (Three Affiliated Tribes of

The Fort Berthold Reservation)

Teddy Platero Jr. (Navajo Nation)

Daniel Zirkle (Nansemond Indian Tribe)

Layne Aldridge (Choctaw Nation)

Joy Domingo-Kameenui (Native Hawaiian) Judith Mitchell (Quechan Tribe of The Fort Yuma Indian Reservation)

Meeya Apelu (Navajo Nation)

Jordan Cutsinger (Muscogee Creek Nation)



Mentor – Danielle Boyer (Ojibwe)

Danielle Boyer has always loved "cooking up" robots. So, when she started public high school in her hometown of Troy, Mich., after years of homeschooling and volunteering as a science instructor and mentor to younger kids, she joined FIRST (For Inspiration and Recognition of Science and Technology) robotics team. Since then she has learned a lot about the world of robotics competitions. Boyer started her nonprofit, The STEAM Connection. Her flagship project is EKGAR, Every Kid Gets a Robot. While robot kits often cost \$500 to manufacture, Boyer figured out how to create an education robotics kit for \$18.95 and has already distributed over 4,500 kits to children for free, primarily to girls and BIPOC students.

pathway



Lighting the Pathway to Faculty Careers for Natives in STEM Program

Supported by the National Science Foundation (NSF), the "Lighting the Pathway to Faculty Careers for Natives in STEM" (LTP) program was created to increase the representation of Native Americans in STEM faculty positions at colleges and universities across the country. The program has created an intergenerational community of undergraduate and graduate students, postdoctoral scholars, and junior and senior faculty members. In 2019, AISES received another five-year grant from the NSF to continue the LTP program. This will increase the number of scholars by 72 over five years, leading to 172 LTP Native STEM scholars.

2021 Lighting the Pathway to Faculty Careers Phase II

Dominic Acri (Rosebud Sioux Tribe) Caitlin Billiot (United Houma Nation) Kimberlee Blevins (Three Affiliated Tribes)

Sarah Bowlin (Cherokee Nation)

Taymee Brandon (Turtle Mountain Band of Chippewa Indians)

Ellis Brown (Osage Nation) Michael Charles (Navajo Nation)

Heathermarie Follette (Assiniboine and Sioux Tribes)

Mickki Garrity (Citizen Potowatomi Nation)

Charles Goodluck (Navajo Nation)

Lida Haghnegahdar

Evan Hoki (Northern Apache)

Melissa Jacquez (Navajo Nation)

Jade Little (Oglala Lakota/Gabrieliño-Tongva Indian Tribe)

Makayla Mather (Tlingit and Haida Indian Tribes) Emily maxwell (Choctaw Nation of Oklahoma)

Richard Nelson (Navajo Nation) Ryanne Ototivo (Kaw Nation)

Sierra Paske (Standing Rock Sioux)

Christopher Perez

Shawn Ray (Navajo Nation)

Melissa Reed (Cherokee Nation)

Kameron Richardson (Lumbee Tribe)

Farah Schumacher

Emma Sullivan (Samish Indian Nation)

Luke Ziegler (Citizen Potawatomi Nation)

2020 Lighting the Pathway to Faculty Careers Phase II

Alissa Baker-Oglesbee (Cherokee Nation)

Maryrose Barrios (Tule River Tribe)

Joel Begay (Navajo Nation)

Landon Charlo (Salish Kootenai)

Kali Dale (White Earth Ojibwe)

Lauren Dupuis (Kootenai)

Kristina Gonzales (Navajo Nation)

Daniel Henry (Turtle Mountain Band of Chippewa Indians)

Samantha Hilborn (Laguna Pueblo)

Lydia Jennings (Pascua Yaqui)

Sierra Kufuman (Shinnecock Indian Nation)

Brandi Kamermans (Navajo Nation)

Melissa Naeimi (Muscogee Nation)

Esme Roddy (Sault Ste. Marie Tribe of Chippewa Indians)

Tyler Rust (Oglala Lakota)

Corbin Schuster (Yakama Nation)

Olga Skinner (Village of Kwethluk)

Lauren Smythe (Hydaburg Cooperative Association)

Nizhoni Tallas (Navajo Nation)

Jacob Walker-Swaney (Piqua Shawnee Tribe)

2019 Lighting the Pathway to Faculty Careers Phase II

Wai Allen (Navajo Nation) R. Konane Bay (Native Hawaiian) Miranda Buckley (Cherokee Nation) Cherie DeVore (Navajo Nation) Phillip Hada (Delaware Tribe) Dawson Hollingsworth (Tlingit) Lara Jacobs (Muscogee Nation) Iordan limmie (Navajo Nation)

Brendan John (Seneca Nation of Indians) Ashleigh McIntosh (Caddo Tribe)

Devan Massin (Aleut Community of St. Paul Island) Dominique Pablito (Zuni, Navajo, Comanche) Seafha Ramos (Yurok Tribe, Karuk Tribe)

Samuel Smith III (Taos Pueblo) Krystal Tsosie (Navajo Nation)

2018 Lighting the Pathway to Faculty Careers Phase I

Alissa Baker-Oglesbee (Cherokee Nation) Maryrose Barrios (Tule River Tribe) Joel Begay (Navajo Nation)

Landon Charlo (Salish Kootenai) Kali Dale (Minnesota Chippewa) Lauren Dupuis (Kootenai)

Kristina Gonzales (Navajo Nation)

Daniel Henry (Turtle Mountain Band of Chippewa Indians)

Samantha Hilborn (Laguna Pueblo) Lydia Jennings (Pascua Yaqui) Brandi Kamermans (Navajo Nation) Sierra Kafuman (Shinnecock Indian Nation) Melissa Naeimi (Muscogee Nation)

Esme Roddy (Sault Ste. Marie Tribe of Chippewa Indians)

Tyler Rust (Oglala Lakota) Corbin Schuster (Yakama Nation) Olga Skinner (Village of Kwethluk)

Lauren Smythe (Hydaburg Cooperative Association)

Nizhoni Tallas (Navajo Nation)

Jacob Walker-Swaney (Piqua Shawnee Tribe)

2017 Lighting the Pathway to Faculty Careers Phase I

Sarah Aarons (Village of Unalakleet) Mark Berger (Oneida Nation of New York)

Edward Chew (Tuscarora Nation)

Alexander Cody (Kickapoo Tribe of Kansas)

Lyle Dahlin (Native Hawaiian) Tammi Duncan (Navajo Nation)

Maxwell Goldstein (Seminole Nation of Oklahoma)

Danielle Guzman (Nez Perce Tribe) Joshua Lelemia Irvine (Native Hawaiian) Laurel James (Yakama Nation)

Jordan Kennedy (Blackfeet Nation) Donna Kuehu (Native Hawaiian) Moses Leavens (Chippewa Cree)

Lizzie Lightning (Ponca Tribe of Oklahoma)
Benjamin Lilley (Eastern Band of Cherokee Indians)
Michaela Long (Navajo Nation)

Kevin McPherson

Jenny Nakai (Navajo Nation)

Cheyenne Nelson (Santa Ynez Band of Chumash Mission Indians)

Talia Quandelacy (Zuni Tribe) Kyle Roessler (Salish Kootenai) Kenneth Swift Bird (Oglala Lakota) Jackie Taylor (Choctaw Nation)

Sydney Thompson (Saint Regis Mohawk Tribe)

Kayle Thunstrom (Minnesota Chippewa) Lani Tsinnajinnie (Navajo Nation) Tada Vargas (Cheyenne River Sioux) Noelani Villa (Kaw Nation) Clayton Wauneka (Navajo Nation)

2016 Lighting the Pathway to Faculty Careers Phase I

Chad Aiginash (Red Lake Band of Chippewa)

Shanadeen Begay (Navajo Nation) Johnny Buck (Yakama Nation) Katrina Claw (Navajo Nation)

Jesse Gibson (Poarch Band of Creek Indians)

Ciarra Greene (Nez Perce Tribe) Candice Guy (Delaware Tribe)

Megan Kiedrowski (Sault Ste. Marie Chippewa)

Naomi Lee (Seneca Nation of Indians)

Rebekah Lester (Osage Tribe)

Kristen Lycett (Cow Creek Band of Umpqua Tribe)

Phillip Medina IV (Huron Potawatomi) Jordan Oshiro (Native Hawaiian) Ulali Phillip (Navajo Nation) Canek Phillips (Purépecha) Dylan Suvlu (Arctic Slope Inupiat) Scott Tan (Blackfeet Nation) Henrietta Tsosie (Navajo Nation) Delbert Willie (Navajo Nation)

2015 Lighting the Pathway to Faculty Careers Phase I

Angelita Bearquiver (Northern Cheyenne Tribe)

Rene Begay (Navajo Nation) Rebecca Buckman (Hopi Tribe) Katherine Crocker (Kaw Nation) Megan Dunn (Cherokee Nation)

Davin Etcitty (Jemez Pueblo, Navajo Nation) Amber Eule-Nashoba (Choctaw Nation)

Bradley Ganoe (Anishinaabe)

Jennifer Remme (Fort Peck Assiniboine Sioux)

Ariel Helms (Cherokee Nation)

Kelsea Kanohokuahiwi Hosoda (Native Hawaiian)

Carrie Joseph (Hopi Tribe)

Nicole Kenote (Menominee Indian Tribe)

Sandra Kjono (Mohawk) Janie Locklear (Lumbee Tribe of North Carolina)

Jacinda Mainord (Village of Selawik, Village of White Mountain)

Jack Martin (Navajo Nation)

Alexander McGirt (Lumbee Tribe of North Carolina)

Na'ta'ne Miles (Comanche Nation, Oglala Sioux, Salt River Pima Maricopa)

Jocelyn Painter (Winnebago Tribe of Nebraska)

Keith Parker (Yurok Tribe)

Anthony Barela Nystrom (Chickasaw Nation) Mackenzie Pearson (Menominee Indian Tribe)

Jesse Peltier (Turtle Mountain Band of Chippewa Indians) Darryl Reano (Acoma Pueblo, Santo Domingo Pueblo)

Biidaaban Reinhardt (Sault Ste. Marie Tribe of Chippewa Indians)

Joshua Thomas (Seneca Nation of Indians)

Ranalda Tsosie (Navajo Nation)

Crystal Tulley-Cordova (Navajo Nation)

travel scholars



Berkshire Hathaway Goodwin Cobb V (Choctaw Nation)

Necole Begay (Navajo Nation) Jerod Jimmie (Navajo Nation) Hope Chambers (Chickasaw Nation)

Judith Mitchell (Quechan Tribe of the Fort Yuma Indian Reservation)

Kelly Beymn (Navajo Nation) laneta Matalolo (Navajo Nation) Samantha Eddy (Navajo Nation) Jayda Knuppe (Meskwaki Nation)

Central Intelligence Agency Madylin Teel (Citizen Potawatomi Nation)

Jerry Adams (Native Hawaiian) Sky Harper (Navajo Nation)

Honeywell

Joanna Cooley (United Houma Nation) Madylin Teel (Citizen Potawatomi Nation)

Koniag Inc. Simon Schumacher

Noah Dunham Scott Larionoff-Melovedof Caroline Wolkof

USDA-National Resources Conservation Service

Darlene Wilson (Navajo Nation) Kirby Morris (Navajo Nation) **Zachary Arquette** (Confederated Tribes & Bands of the Yakama Nation) Lori Huck (Cherokee Nation)

circles of connection

Elder – Steven Darden (Navajo, Ute, Swedish)

Council of Elders member and vice-chair of the Navajo Nation Human Rights Commission, Steven Darden has been awarded a Luce Indigenous Fellowship by the Henry Luce Foundation. Darden will use the fellowship, which support Native American knowledge holders, to perpetuate the traditional Navajo end-of-life practices.

summer interns

Aristocrat/VGT

Taylor Nakai (Navajo Nation)

Bonneville Power Administration (BPA) Fish & Wildlife Program

Greyson Bordeaux (Rosebud Sioux Tribe) Tiauna Walker (Shoshone Bannock Tribes of the Fort Hall Reservation)

BMM Testlabs

Jeffrey Begaye (Navajo Nation) Rachel Wilson (Choctaw Nation)

Forest Products Laboratory

John Parker Nunley (Pueblo of Laguna) Joshua Lowry (Lumbee Tribe)



events

AISES in Canada National Gathering

AISES in Canada is focused on two goals: building Indigenous Canadian leadership in STEM and expanding equitable and representative opportunities in all STEM fields.

AISES is now extending its reach to ensure that Indigenous peoples in Canada are equally represented in industry and in leadership roles by identifying and removing barriers to advancement. Through targeted activities and a growing network of support, AISES is working to increase diversity in STEM for the future of communities across Canada. This positioning will also dramatically increase the ability of AISES to support students and professionals currently focused on STEM, as well as encourage youth to consider STEM fields as a career.



The 2021 AISES in Canada National Gathering was a virtual event held on March 18, 2021.

The AISES in Canada National Gathering was sponsored by:

Eagle

Engineers Canada

Mosaic

TC Energy University of Calgary





The 2021 Regional Conferences were sponsored by:

Americas Navy IBM Sandia National Labs U.S. Intelligence Community



Elder – Dr. George Blue Spruce (Laguna/ Ohkay Owingeh Pueblos)

Dr. George Blue Spruce, DDS, MPH, received a Lifetime Achievement Award from the Josiah P. Macy Jr. Foundation Awards for Excellence in Social Mission in Health Professions Education. The first American Indian dentist in the United States, Dr. Blue Spruce was instrumental in the founding of the Society of American Indian Dentists and serves as assistant dean for American Indian affairs at A.T. Still University – Arizona School of Dentistry and Oral Health. In 1990, Dr. Blue Spruce received the 1990 Ely S. Parker Award - the highest professional honor at AISES.

Collegiate Regional Conferences

Every spring, AISES College and Professional Chapters scattered across the U.S. and Canada hold Regional Conferences where participants champion each other in their respective academic and professional endeavors. Each Chapter hosts unique workshops and sessions designed to generate enthusiasm for — and success in — STEM education and careers.

These gatherings not only serve to furnish the latest information on Chapter activities in the region, but they also highlight meetings, programs, and events. Regional Conferences are the perfect venue to promote membership, provide information on scholarship and internship opportunities, meet interesting current and future leaders, and make new friends.

In 2021, individuals experienced the Regional Conferences as virtual events that were built around keynotes, sessions, breakouts, and more.

2021 Regional Conference Hosts

Region 1

AISES Headquarters, Albuquerque, New Mexico

Region 2

University of California – Riverside

Region 3

Phoenix Professional Chapter, Phoenix, Ariz.

University of Arkansas and Northeastern State University

Region 5

Nueta Hidatsa Sahnish College

Region 6

Rochester Institute of Technology

Region 7

North Carolina State University

Leadership Summit

Establishing a leadership pipeline is fundamental to developing today's best science, technology, engineering, and math talent. Students from high school through postdoctoral studies, as well as emerging and mature professionals, value the AISES Leadership Summit as an opportunity to acquire the skills they need to be confident leaders. Through workshops and sessions — along with built-in time to relax, socialize, and have fun — the AISES Leadership Summit delivers on strategies that enable Native students, STEM professionals, and Indigenous leaders to learn from each other, network, and find support.

The 2021 AISES Leadership Summit took place virtually on two Fridays - April 2 and April 9. The Summit delivered on strategies that equip Native STEM students and leaders with the knowledge, tools, and information to succeed within the organizational structures in their work and academic lives. Through session and networking opportunities, the Leadership Summit participants learned how to fulfill their potential as STEM leaders as they work to meet their career and educational goals.



The 2021 Leadership Summit was sponsored by:

Opal Sponsors:

Wells Fargo Bank

Malachite Sponsors:

Chevron

Dow, Inc.

Stantec



Elder – Dr. Henrietta Mann (Southern Cheyenne)

The largest classroom in the new \$20 million, state-of-the-art American Indian Hall at Montana State University has been named in honor of AISES Council of Elders charter member emerita Dr. Henrietta Mann. One of the features of the Mann classroom is that it is configured in the round, culturally harmonious design that brings students closer to each other and to their instructors. That feature is especially appropriate because over Dr. Mann's long career as an educator she was known for her leadership in advancing Indigenous students.

National Conference

The AISES National Conference has been held annually since 1978 and is an unparalleled opportunity to connect companies with Indigenous high school juniors and seniors, undergraduate and graduate students, educators, workforce professionals, and corporate and tribal partners for three-full days of professional development, networking opportunities, presentations, workshops, awards, and traditional Indigenous cultural events.

The National Conference hosts the largest college and career fair in Indian Country with many companies hosting hiring events by conducting onsite interviews. Job seekers are provided interview coaching and resume development, as well as career planning and other skills needed to be successful in today's job market.

For students who are considering college or graduate school, resources are provided to assist in financial planning, applying for college or graduate school, and obtain information on the many STEM majors and careers available. AISES members and attendees from the U.S. and Canada, and as far away as Alaska and Hawaii make connections. It is here they find the resources and services they need to guide and advance their academic studies and plan their professional career goals.

Over 2,200 registered attendees participated in the 2021 AISES National Conference that was held in Phoneix, Ariz., and virtually.

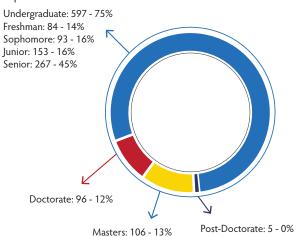


Graduate - Brielle Chanae Thorsen (Saddle Lake Cree Nation)

Brielle Chanae Thorsen was named the 2020 recipient of the Order of the White Rose Scholarship. The award was instituted on the 25th anniversary of a 1989 mass shooting, where the gunman targeted only women. The White Rose Scholarship goes to a female graduate engineering student in remembrance of the 14 women killed and 11 injured. Thorsen, who was the first Indigenous woman chosen for the \$30,000 scholarship, earned her BASc at Queen's University in Ontario, where she is pursuing a master's in mechanical engineering. She served as the first AISES Canadian National Student Representative.

COLLEGE STUDENTS

College student attendees were asked to indicate their level of study pursued at present.





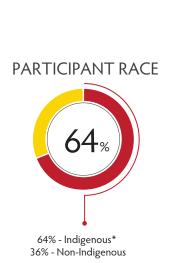


Attendance

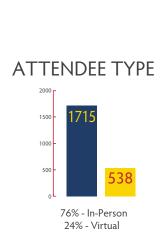
Professionals	424	17.8%
College Students	709	30.2%
Pre-College Students & Chaperones	319	14.2%
Exhibitors & Sponsors	694	32.3%
Advisors	75	3.5%
Elders	32	1.5%
Total	2,253	

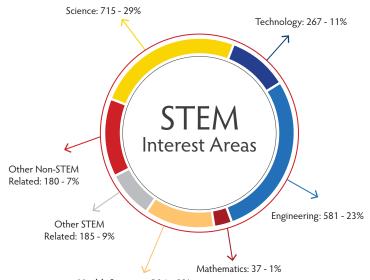
Gender Identity of Participants

Female	1,215	54%
Male	906	40%
Transgender Woman/Trans Feminine	2	0%
Transgender Man/Trans Masculine	3	0%
Non-Binary/Genderqueer/Gender Fluid	18	1%
Two Spirit	26	1%
Gender not listed	6	0%
Prefer not to answer	60	3%



*American Indian, Alaska Native, First Nation, Native Hawaiian and Pacific Islander





Health Sciences: 204 - 8%

REGISTRATION TYPE	2014	2015	2016	2017	2018	2019	2020	2021
Professionals	184	278	289	381	487	478	591	531
College Students	509	587	615	597	500	518	804	709
Pre-College Students & Chaperones	138	267	304	259	633	277	316	319
Exhibitors & Sponsors	438	562	548	562	619	633	790	694
Educators & Judges	61	76	75	76				
Speakers	58	41	65	39				
Other	3	4	4	3	8	10		
Total	1,391	1,815	1,900	1,917	2,297	1,916	2,501	2,253

National Conference **Exhibitors**

3M

Accenture

Alyeska Pipeline Service Company

Amazon

American Chemical Society

America's Navy

AMERIND

Ames Laboratory

Arizona Department of Transportation

(ADOT)

Arizona Indians into Medicine

Arizona State University

Army Corps of Engineers

Association of American Indian

Physicians

Association of American Medical

Colleges (AAMC)

Ball Corporation

Baylor College of Medicine

Be An Actuary

Berkeley Lab

BetMGM

Blue Origin

BNSF Railway

The Boeing Company

Bonneville Power Administration Booz Allen Hamilton

Bureau of Ocean Energy Management

(BOEM)

Burroughs Wellcome Fund

Carnegie Mellon University Software

Engineering Institute

Carollo Engineers, Inc.

Centers for Disease Control and

Prevention (CDC)

Central Intelligence Agency

Chevron

Cisco

Cleveland Clinic Lerner College of

Medicine

Columbia University in the City of New York

Columbia University Mailman School of

Public Health

Columbia Vagelos College of Physicians

& Surgeons

Comcast NBCUniversal

Congressional App Challenge

Cornell University - College of

Engineering

Cornell University

Corning Incorporated

Crazy Horse Memorial

Cronkite School

Dartmouth-Guarini School of Graduate

and Advanced Studies

Defense Intelligence Agency

Deloitte

Department of the Air Force

DOE/Legacy Management

DoorDash

Dow, Inc.

Emory University, Laney Graduate

School

ExxonMobil

F5 Networks, Inc.

Facebook

Federal Aviation Administration

Federal Reserve Bank of Dallas

Food and Drug Administration

Fred Hutchinson Cancer Research

Center

Freeport-McMoRan

GEICO

General Atomics

General Motors

Georgia Tech Research Institute

Geoscience Convergence Zone

Google

Harvard John A. Paulson School of

Engineering & Applied Sciences

Harvard University Native American

Program

Hesperus

Honeywell FM&T

Humboldt State University

IBM

Idaho National Laboratory

IllumiNative: Indigenous Futures Survey

Indigenous Education, Inc.

INMED (Indians Into Medicine)

Intel Corporation

International Education Corporation

Jack Kent Cooke Foundation

Johns Hopkins Applied Physics

Laboratory

Johnson Scholarship Foundation

Keck Graduate Institute

Keysight Technologies

Koniag Government Services

Lawrence Livermore National

Laboratory

Leidos

Los Alamos National Laboratory

Maricopa County Democratic Party

Voter Registration Committee

Mayo Clinic

Medtronic

Merck

Michigan State University-The Graduate

School

Microsoft

MIT Office of Graduate Education

Montana State Chemistry REU: Next

Generation Materials and Catalysts

NASA

NASA First Nations Launch

NASA let Propulsion Laboratory

National Academies of Sciences,

Engineering, Medicine

National Geospatial-Intelligence Agency

National Institute of Standards and

Technology

National Math and Science Initiative

National Science Foundation

National Security Agency

Native BioData Consortium

Nava PBC

Navajo Technical University "It Begins

From Within"

Navajo Transitional Energy Company

Naval Nuclear Laboratory

New Mexico Tech

NextEra Energy, Inc.

NIH/NINDS

Nike

Nordstrom

Northeastern University Khoury College

of Computer Sciences

Northrop Grumman

Northwestern University - The Graduate

School

Northwestern University Master of

Science in Law Program NSF/Division of Industrial Innovation

and Partnerships

NSF EPSCoR CPU2AL

NTU-NMT Navajo Nation Water

Purification Project (N4WPP) Nueta Hidatsa Sahnish College

NV5

Oregon State University College of

Pharmacy Oregon State University Ecampus

Otis Elevator Company

Pacific Northwest National Laboratory

Pala Band of Mission Indians

Pechanga Band of Luiseño Indians

Penn State University College of

Engineering **Pinterest**

Procter & Gamble

Raytheon Technologies

Resolution Copper Riley Engineering Saint Vincent College Salesforce San Carlos Apache Healthcare Corporation Sandia National Laboratories Sealaska Sirius Computer Solutions, Inc. Soboba Band of Luiseno Indians Society of Women Engineers Sonoran Pueblo Contracting, LLC Southern California Tribal Chairmen's Association Splunk Square | Cash App Stantec Summer Health Professions Education

Program SUNY University at Buffalo, School of **Engineering and Applied Sciences** Texas Department of Transportation

The INGAA Foundation

The Ohio State University, College of Engineering

The Partnership for Native American Cancer Prevention (NACP) Research Education Core & University of Arizona College of Veterinary Medicine

The STEAM Connection Tufts University Graduate Programs in Arts, Sciences & Engineering

U.S. Department of Energy

U.S. Department of State

U.S. Fish and Wildlife Service

U.S. Geological Survey

U.S. Nuclear Regulatory Commission

U.S. Secret Service

UAB School of Health Professions

UC Davis School of Medicine

UC San Diego, Graduate Division

UCLA Center for Excellence in Engineering and Diversity

UCLA Health

Union Pacific

United State Military Academy

United States Space Force

UNITY - United National Indian Tribal Youth. Inc.

University at Albany, SUNY

University of Alabama at Birmingham

University of Arizona Cancer Center & Haury Program

University of Arizona College of Engineering

University of Arizona Graduate College University of Colorado Denver |

Anschutz Medical Campus

University of Idaho College of Graduate **Studies**

University of Kansas

University of Michigan Future Public Health Leaders Program

University of Minnesota, College of Science and Engineering

University of Montana-College of

University of Pittsburgh Graduate School of Public Health

University of Rochester

University of Wisconsin Law School University of Wisconsin-Madison -

Astronomy

University of Wisconsin-Madison College of Engineering Graduate Engineering Research Scholars Program

UNM Engineering

US Intelligence Community

USDA Natural Resources Conservation Service

UT Southwestern Medical Center: PhD and MSTP Programs

VentureWell

Vet Up! Program at Purdue College of Veterinary Medicine

Virginia Maryland College of Veterinary Medicine

Virginia Tech - College of Engineering Walmart

Wells Fargo

WSP USA Williams

Winds of Change/AISES

Zoom





Professional – Aaron Yazzie (Navajo)

NASA engineer Aaron Yazzie uses his skills as a mechanical engineer at NASA Jet Propulsion Laboratory to design mechanisms for retrieving geological samples from space and serves as the lead engineer for Mars Rover Perseverance 2020 drill bits. Yazzie was involved with AISES starting in high school, and with the support he received at AISES, he advanced his path academically, eventually connecting him with NASA at a National Conference.

Sandia National Laboratories

Nike

NV5

Oracle **Pinterest**

Splunk

Stantec

Walmart

Sage

Cedar

Pinon

Eagle

AMERIND

Square Inc.

Union Pacific

Wells Fargo

Native Circle

Navajo Transitional Energy Company

Pala Band of Mission Indians

Sealaska Corporation

Association

Sponsor

Arizona State University

University of Arizona

Georgia Tech Research Institute

Other Sponsors

Burroughs Wellcome Fund

Pechanga Band of Luiseño Indians

Soboba Band of Luiseño Indians

US Department of State (Koniag)

Academic Institutions

Southern California Tribal Chairmen's

Sponsors

Alyeska Pipeline

2021 National Conference Sponsors

Turquoise

Intel

The Boeing Company U.S. Intelligence Community

Coral

3M

Amazon

IBM

Microsoft

Nordstrom

Northrop Grumman

US Army Corps of Engineers

Lapis

General Motors

Merck

National Science Foundation

National Security Agency

Raytheon

Salesforce

US Department of State

USDA Natural Resource Conservation Service

Onyx

Accenture

Americas NAVY

American Chemical Society

AT&T

BNSF Railway

Carnegie Mellon University Software

Engineering Institute

Central Intelligence Agency

Chevron

Cisco

Comcast NBC Universal

Deloitte

Department of the Air Force

Dow

ExxonMobil

F5 Networks, Inc.

Facebook

Freeport McMoRan

General Atomics

Google

Honeywell FM&T

INGAA Foundation

Lawrence Livermore National Labs

Mayo Clinic

Medtronic

NASA

Professional Session Track

National Science Foundation

STEM and Business Session

Johnson Scholarship Foundation

STEM Activity Day

The Boeing Company

Student Awards Luncheon

Department of the Air Force Jack Kent Cooke Foundation National Security Agency

Professional Members Keynote Breakfast

3M

Professional Members Mixer

The Boeing Company US Department of State (Koniag)

Graduate Student Mixer

Sloan Indigenous Graduate Partnership

Networking Suite Sponsors

Armed Forces and Intelligence sponsored by NSA Energy sponsored by Williams Natural Resources, Food and

Agriculture sponsored by USDA Natural Resource Conservation

Manufacturing and Consumer Goods sponsored by 3M

Partner Suites

The Boeing Company U.S. Intelligence Community

Industry Partner Tours

General Motors

The Boeing Company

University Tours

Arizona State University

WiFi and Mobile App Sponsor Cisco

Hackathon

Chevron

Undergraduate Student Research

Graduate Student Research

Sloan Indigenous Graduate Partnership

High School Poster Competition

Bureau of Ocean Energy Management

Student Orientation

The Boeing Company

hackAISES Wells Fargo Bank

Elders Lounge

The Boeing Company

Coffee Break Sponsor

National Math and Science Initiative

Aluminum Cup Sponsor **Ball Corporation**

SnapChat Filter

The Boeing Company

Travel Scholarships

Berkshire Hathaway Foundation Central Intelligence Agency Honeywell FM&T Koniag Government Services USDA Natural Resource Conservation Service

Community Partners

GEICO Security Innovations True Diversity

Media Partners

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Professional Chapter – Lake Erie

Professional Chapter

The Lake Erie Professional Chapter was mentioned in coverage by local and national news outlets, including *Sports Illustrated*, for its role as part of the Cleveland Indigenous Coalition in working with the city's Major League Baseball franchise to change the team's name. The intention to begin the process to rebrand the team with a "non-Native American based name" was announced in 2021.

AISES Circle of Support

In 2021, AISES relaunched its Circle of Support Program that acknowledges the generous investment of partners whose support is integral to the AISES mission. Circle Partners are organizations that have established a multiprogram partnership with AISES in 2020. We wish to thank each of our Circle Partners for their continued efforts to serve AISES student and professional members.

Full Circle of Support (\$100,000 +)



















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2021 Energy Challenge Award Winners

Reid Murie (Cheyenne River Lakota)

Energy Challenge The possibility of using Hydrogen gas produced by electrolysis apparatus as a substitute for propane gas in heating the house

Kolton Running Crane (Blackfeet) Energy Challenge Paapoo'sinni Ikahtomaan

Jennifer Atchico-Shrestha (Absentee Shawnee) Energy Challenge (1st place) Archimedian Screw Hydro Turbine



Research Awards

Posters

Middle School: 1st Place

Christian Little & Matthew Poncho (Mescalero Apache) Water Quality Monitoring Autonomous Waterbot

Middle School: Honorable Mention

Melani Trujillo & Diandra McFadden (Mescalero Apache) Working with an Artificial Hand

High School: 1st Place

Jordyn Begay (Navajo)

Identification of the Artificial Synthesis of Aromatic Amino Acid Tyrosine, Based on Pi-to-Pi* Absorbance Peaks

High School: 2nd Place

Kellen Apuna (Native Hawaiian)

An Inventory of Forest Birds Along the Aiea Loop Trail, Oahu, HI

High School: 3rd Place

Caydence Palmer & Angel Enjday (Mescalero Apache)
Make Your Air Safer: Alerting Indoor IoT Air Quality Monitor

High School: Honorable Mention

Amber White (Navajo)

Deleterious Effects of Atmospheric Sulfur Dioxide (SO2): Farmington, New Mexico Area of the Navajo Nation

Undergraduate: 1st Place

Dehlia Wolftail (Turtle Mountain Band of Chippewa)
Quantification of The Colville and Spokane Tribe Water Right
Adjudication and Potential Impacts to Current Junior Water Right

Undergraduate: Tied, 2nd Place

Michelle Anderson (Red Lake Nation)

Effects of Sulfur on Manoomin

Undergraduate: Tied, 2nd Place

Marcie Vandever (Navajo)

The Comparison of Microstructure and Mechanical Behavior of Stainless Steel 316L Using Near Net Shaped and Fully Embedded Methodologies Using DED Metal Advanced Manufacturing

Undergraduate: 3rd Place

Melissa Vera (Latina)

Targeting Oxidant Stress in Diabetic Retinopathy

Graduate: 1st Place

Alicia Brown (Navajo)

Chemical Biology Studies of Malleilactone, a Small-Molecule Virulence Factor Produced by Burkholderia pseudomallei

Graduate: 2nd Place

Lauren McLester-Davis (Oneida Tribe of Indians of Wisconsin)

The Association of Telomere Length and Neurodevelopment Performance in Surinamese Infants

Graduate: 3rd Place

Kali Dale (White Earth Ojibwe)

Regulatory Mechanisms of MAPK Pathway Delayed-Early Gene Targets

Graduate: Honorable Mention

Kyle Matt (Blackfeet)

Séarching for RR Lyrae variables in the Second Data Release of the NOAO Source Catalog

Graduate: Honorable Mention

Melissa Reed (Cherokee)

From Trash to Treasure: Inexpensive Aquatic Invertebrate Sampling Devices Upcycled from Plastic Soda Bottles



awards





Postdoctoral – Dr. Kelsea Hosoda (Native Hawaiian)

Dr. Kelsea Hosoda teaches math and science at the Malāma Honua Public Charter School in Waimānalo, Hawaii, and is a Postdoctoral Scholar at the University of California San Francisco, where she conducts postdoctoral research in STEM education persistence. Hosoda holds bachelor's, master's, and doctoral degrees from the University of Hawaii at Manoa and was part of the inaugural Lighting the Pathways to Faculty Careers for Natives in STEM Fellows cohort in 2014. Hosoda attended her first AISES conference in 2010, and she was impressed. AISES offers a unique balance between Native American identity and culture with rigorous STEM opportunities at all levels.

Ely S. Parker Award

The Ely S. Parker Award honors those individuals who reflect a history of service to their profession and the Indigenous community. The award is named for a distinguished 19th-century Seneca Nation chief who broke multiple racial barriers while establishing a legacy that continues to inspire Indigenous leaders today. It is the highest professional honor at AISES.

Ely S. Parker award recipients provide extraordinary support to AISES and the Indigenous STEM community. Their leadership, principals and philosophies distinguish them as exceptional people who excel in advancing opportunities for others.

The winner of the 38th annual Ely S. Parker Award is Sequoyah Fellow Richard "Rick" Stephens, Pala Band of Mission Indians. A Board chair emeritus, Stephens served two consecutive terms on the AISES Board and also served as a member of the Executive Committee and on the board of AISES publishing. He provided invaluable leadership to AISES over the course of several critical years in the organization's history and has been a role model for and mentor to many as well as an energetic advocate for inclusion, service, and STEM education.

Stephans retired from The Boeing Company in 2013 after a 33year career in finance, engineering, and management concluding as the global leader of Human Resources and Administration. Businesses he led at Boeing include Space and Communication Services, Reusable Space Systems, Naval Systems, Tactical Systems, Submarine Combat Systems, and Space Shuttle.

Stephens, a emeritus chair of the AISES Board of Directors and recipient of the 2004 AISES Professional of the Year Award. He has also received the National Management Gold, Silver Knight, and Excellence in Leadership Awards. He is a National Management Hall of Fame inductee and is an associate fellow of the American Institute of Aeronautics and Astronautics.



Awardees

Richard "Rick" Stephens (Pala Band of Mission Indians), Engineering 2021

Dr. Cara Cowan Watts (Cherokee Nation), Engineering 2020

Dr. Roger Dube (Mohawk Turtle Clan), Physics 2019

Cheryl McClellan (Sac and Fox), Engineering 2018

Dr. Patricia Nez Henderson (Navajo), Medicine 2017

Dr. Robin Wall Kimmerer (Citizen Potawatomi Nation), Educator 2016

Dr. Bret Benally Thompson (White Earth Band of Ojibwe), Medicine 2015

Dr. Jason Younker (Coquille), Educator 2014

Bessie Newman Spicer (Navajo), Nursing 2013

Dr. Henrietta Mann (Southern Cheyenne), Educator 2012

Everett Chavez (Kewa Pueblo), Educator 2011

Dr. Robert Whitman (Navajo), Engineering 2010

Sandra Begay (Navajo), Engineering 2009

Norbert S. Hill, Jr. (Oneida), Educator 2008

Governor Joe A. Garcia (Ohkay Owingeh), Engineering 2007

No Award 2006

George Thomas (Cherokee), Engineering 2005

J.C. Elliott High Eagle (Osage/Cherokee), Physics 2004

Carol Metcalf Gardipe (Penobscot), Geology 2003

Dr. Judith Kaur (Choctaw/Cherokee), Medicine 2002

Dr. Carolyn Elgin (Choctaw), Educator 2001

Dr. Jim May (Cherokee), Engineering/Business/Library Science 2000

Dr. Robert Megginson (Lakota), Mathematics 1999

Dick French (Yakama), Forestry 1998

Dr. Jane Mt. Pleasant (Tuscarora), Agronomy/Soil Science 1997

Dr. Fred Cooper (Shoalwater Bay), Engineering 1996

Dr. Cliff Poodry (Seneca), Biology 1995

Dr. Taylor Mackenzie (Navajo), Medicine 1993

Dwight Gourneau (Chippewa), Engineering/Physics 1994

Dr. Fred Begay (Navajo), Physics 1992

No Award 1991

Dr. George Blue Spruce (Laguna/Ohkay Owingeh), Dentist 1990

Dr. Louis Steele (Assiniboine), Medicine 1989

Don Ridley (Shoshone), Engineering 1988

Phil Lane Sr. (Yankton Sioux), Engineering 1987

Al Qöyawayma (Hopi), Engineering 1986

Mary Golda Ross (Cherokee), Mathematics/Engineering 1985

Phil Stevens (Oglala Sioux), Engineering 1984

A.T. Anderson (Seneca), Engineering 1983





The AISES Professional Awards

The much-anticipated AISES Professional Awards honor individuals who have excelled as leaders and created a record of significant achievement in support of Indigenous people in STEM. Given annually, the awards recognize the contributions that these remarkable Indigenous STEM professionals make every day in their communities and scientific disciplines.

The difficult task of selecting winners from among the many distinguished nominees is undertaken by a committee representative of AISES partners from the corporate, academic, government, foundation, and tribal sectors. AISES is grateful to everyone who participated in the nomination and selection process, and we congratulate the 2021 Professional Award winners.

These leaders are role models who are empowering students and communities through their leadership and passion for STEM. They show that pursuing a career in STEM is possible for everyone regardless of their background.

Professional of the Year

Dr. Crystal Tulley-Cordova (Diné) Navajo Nation Department of Water Resources

Blazing Flame

Leona Anderson (Cherokee Nation) The Boeing Company

Executive Excellence

Tobin Beal (Choctaw Nation) General Motors

Indigenous Excellence

Deb Tewa (Hopi) Native Renewables Inc.

Most Promising Engineer or Scientist

Dr. Josiah Hester (Native Hawaiian) Northwestern University

Technical Excellence

Aaron Yazzie (Navajo) NASA Jet Propulsion Laboratory





The AISES Professional Awards

Professional of the Year – The AISES Professional of the Year Award is presented for overall leadership and technical achievement. Individual nominations for this award are not accepted because the recipient is selected from among the top candidates submitted in all categories,

Blazing Flame Award – This award is conferred on individuals who "blaze" a path for Indigenous people in STEM careers. Winners have 10 or more years of professional experience with significant accomplishments in advancing STEM education and careers.

Executive Excellence Award – Individuals eligible for the Executive Excellence Award are Indigenous senior executives in upper-level management or experienced engineers, scientists, professionals, or academicians. The category includes budget concept, management practice, technical achievement, and contributions to business development and operations.

Indigenous Excellence Award – Individuals who have done substantial work for 10 or more years to advance programs and opportunities for Indigenous students and professionals within their Indigenous community and/or in support of Indigenous people at the national level may be recognized with the Indigenous Excellence Award.

Most Promising Engineer or Scientist Award – Nominees for the Most Promising Engineer or Scientist Award must be a professional engineer or scientist with up to five years of workforce experience after earning a professional degree. The candidate's early technical contributions must indicate a promising career.

Technical Excellence Award – Nominees for the Technical Excellence Award must have made a significant contribution to science, engineering, or technology by having designed, developed, managed, or assisted in the development of a product, service, system, or intellectual property.











Partner Service Awards

The AISES staff selects the Partner Service Award winners to honor those who have been exceptionally supportive of the organization. Strategic partners are enormously important to the AISES mission because they enhance and promote STEM education and careers and foster the continued growth of the organization at a pace that would be impossible to achieve without them. Here are the 2021 recipients of the Partner Service Awards.

Advocacy Partner Service Award

Lake Erie Professional Chapter

Community Service Award

Maria Dadgar, Inter Tribal Council of Arizona Inc.

Corporate Partner Service Award

Bonnie Wallace, Wells Fargo Bank

Educator Partner Service Award

Sam Tupou, Siletz Valley Schools

Foundation Partner Service Award

Jack Kent Cooke Foundation

Government Partner Service Award

Tony Baylis, Lawrence Livermore National Laboratory

Nonprofit Partner Service Award

Victoria Fuentes, American Chemical Society

Tribal Partner Service Award

Navajo Nation



Sequoyah Fellow – Dr. Roger Dube

Sequoyah Fellow Dr. Roger Dube, winner of the 2019 Ely S. Parker Award, was named a J. William Fulbright Scholar for 2021 at the University of Manitoba. Dr. Dube has been developing a program to increase Indigenous student enrollment in the sciences. The program named, Wawatay after the Anishinaabe word for "northern lights," will infuse traditional indigenous science approaches with university science instruction to broaden the reach and impact of traditional knowledge.



Winds of Change



Through a combination of print and digital publishing, Winds of Change magazine consistently delivers content designed to engage every part of the growing AISES family. Students from PK-12 through post-doc, aspiring and mature professionals, retirees, and elders — as well as our sponsors, partners, and friends — rely on Winds of Change as a multifaceted resource.

Each issue includes timely feature articles along with a welcome letter from the CEO, news of the organization and its members in AISES Notebook, inspiring "role model" profiles in AISES People, news of opportunities in Career Builder and Paths in Education, a Partner Index, and a guest commentary on a topic of community interest in Last Word. In addition, readers can find selective advertising for products, services, and opportunities that serve a diverse STEM-focused constituency.

Decisions on Winds of Change content are guided by the Editorial Advisory Council, comprising members from all segments of the AISES family. The digital version of each issue's content entails a robust social media presence and advertising that effectively target focused demographics. The cover of each issue and the accompanying article are especially designed to engage younger readers and keep them engaged as they work toward a promising future in STEM.

Together these components reach a broad readership and forward the AISES mission with an inspiring message of how STEM endeavors can lead to a fulfilling and productive future. Winds of Change fosters diversity in STEM fields and draws readers to AISES, while inspiring them to overcome obstacles on their own STEM paths.



Sequoyah Fellow – Dr. Mary Jo Ondrechen (Mohawk)

Sequoyah Fellow and former chair of the Board of Directors, Dr. Mary Jo Ondrechen won a 2021 Fulbright Fellowship and spent four months in Budapest, Hungary. Dr. Ondrechen is a professor of chemistry and chemical biology at Northeastern University in Boston and worked on kinases during her fellowship. In 2021, the NPR program, On Point interviewed Dr. Ondrechen on the topic of COVID-19 variants.

fellows



AISES Sequoyah Fellows

The Sequoyah Fellows program invests in our future and accepts a lifetime commitment to lead and encourage Indigenous participation in STEM. We take great pride in our Sequoyah Fellow network of over 1,500 motivating and inspiring members from all four directions in North America.

Sequoyah Fellows span the U.S. and Canada. They are scientists, tribal leaders, scholars, business leaders, retirees, educators, elders, and students who are dedicated to the advancement of Indigenous in STEM and encouraging the next generation of STEM leaders in the workplace.

The Fellows follow the lead of Sequoyah – a citizen of the Cherokee Nation – who developed the Cherokee syllabary in 1821. The Cherokee people quickly advanced in reading and writing abilities that sparked the ingenuity of a strong, resilient nation.

Being a Sequoyah Fellow can be a life-changing experience – and you too, can be a Sequoyah Fellow connecting with the 2021 inductees listed below.

Olivya Caballero Michelle Larson Kristen Goodfriend Jackie Whiteman Elise Lussier Hattie Walker Alec Thundercloud Celeste Groux Marshand Vasquez Alex Armendariz Jasmine Charley Tsali Smith Danielle Arpan Abigail Reigner Mikaela David-John Vanessa Benally June Sayers Michael Dockry Christina Sun Danielle Redhouse Waylon Truax Audra Benally Jessica Black Melanie Howard Skyler Lawrence Yazzie Willie Marquez Brian Westcott Kiva McGahan Karen English Sarah Gumina **Betsy Tellier** Shane Blair Danielle Boyer

Courtney Downard

Kellin Slater Kathleen Taylor Jessica Vandenberghe Ryan Tabrah Lindsay Holiday Ashlee Abrantes Robbie Hood Aaron Smith Jonathan Wiggs Milford Muskett Deanna Burgart Stanford Lake R. Konane Bay Vernon Chee Nancy Papineau Kiana Beaudin Mindy Dallard Sidney Fire Steven Santana Sheri Jackson Jace Noteboom Ryan Quade Amy Brim Ryan Wilson Norbert Seabs Hill IV Kennedy Johnson Tobin Beal Yolanda Benally Paul Davis Jr. Katherine Fancher

Robert Adkisson

Bethany Farmer Chad Johnson Kayadesbah NaveMark Darrel Williams Elisabeth Lewalski Sandra Whitney Clayton Sockabasin Amanda Ruiz Mark Hunter Chris O'Gorman Jerimiah Chebon Hamon Michael Medeiros Ashly Hall **Timothy Pepper** Ronica McKinley Madison Anderson Davona Blackhorse Dara Brown Sadie Vermillion **Emily Maxwell** Lawrence Alfred Jr. Donna Fernandez



Individual Giving List

In 2021, AISES made the strategic move to hire a Director of Individual Giving. In addition to ensuring our supporters feel appreciated for their invaluable contributions, the Director of Individual Giving will be creating and implementing a capital campaign and the launch of a planned giving society in 2022 to ensure that AISES, and its mission, will exist in perpetuity.

Thank you to everyone who is supporting the vision for the next seven generations of Indigenous people to be successful, respected, and influential members of our vast and ever-changing global community. Your donations are helping more students get the support they deserve as, together, we help them grow and thrive in their STEM careers.

Munaf Aamir George & Mary Abbott Irvan Abdoulrassoul Tara Abrams Murray Abramsky Devin Acosta Svetlana Adalkin Shay Adams lacklin Adams Nicole Adams Aliina Adelman Louise Alarnick Heather Aldrich Rosie Alegado Duncan Alexander Ghiaz Alikhan Brenda Allen Verl Allen Linda Alley-Sarnack Tonya Almaraz AmazonSmile Frank Ambrose Shanaz Amirjafari Kevin Anchukaitis William Anderson Chris Anderson Karen Anderson Michelle Anderson **Brittany Anderson** Jean Andino Aleena Arakaki Carol Aramaki Davar Ardalan

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Anthony Astwood Stefan and Rachel Atay Agnes Attakai Charles Aukai Michelle Austin Sergio Avila Lowell Ayers Jameelah Aziz Michael Bacon Srinivas Badrinarayanan Jef Baez Parmvir Bahia Michelle Baker Hannah Balderas Dennis Ballard Nicole Ballman Nicholas Balogh Becky Banbury Morgan Victoria Bannon Cecilia Barber Chase Barnes William Barns Mateo Barragan Glen Barrentine Ryan Barschaw John Barton Mary Lou Battley Tony Baylis Tobin Beal Naomi Becker David Beekhulzen Michael Beens Sandra Begay Tamana Begay

Ouray Begay

Keishaun Aspaas

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Frederick Boyd David Bozek Ron Bray **Neil Bray** Samantha Brayboy Lyle Breiner Martin Brennan Amy Brim Kyle Brink Sarah Brinkley Josh Broder **Donald Bromley** Scott Brookes John Brown Karen Brown **Emily Brown** Richard Brown Lori Brown Tina Brown Nathan BrownEagle Lane Browning Rosanne Broyd Melissa Bryan Elizabeth Buck Miranda Buckley Christine Bumpous Jason Buneo Kathryn Bunner Elizabeth Burakowski Kenneth Burch Deanna Burgart Amy Burgin Michael Burke Terence Burley John Burnett

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Amy Puls Lcplk Pursell Nicoletta Putaturo Al Qöyawayma KC Qöyawayma N/A Quick Brandon Quick Bear Anna Quinlan Lillian Quintero Ellen Quisenberry

Katrina Rabeler

Robert Rabin Nauman Rafique Jennifer Rainey Sami Ramirez Geela Margo Ramos Sowmya Rangineni David Rapkin

RI Ray Kenneth Redhorse

Danielle Redhouse Raquel Redhouse Kathleen Reese Steven I Reeves Cynthia Regan

Andrea Reh-Gingerich

George Reid Mike Reiss Anthony Rendina Tsosie Řeyhner David Reynolds Ayana Rhodes-Morton Daniel Rimmer Mary Rincon Donna Ring Shan Ring Kevin Rios Devin Rippner

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Edison Rua Michael Ruderman Bruce & Barbara Ryder Thomas Saeger

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Frank Terpenning Laci Texter Kristen Thayer Danielle Thirumalai Marlin Thomas Alan Thomas Patricia Thomas Jord Thomas Diane Thompson Matt Thompson Pamela Thompson

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Terry Trobec Aisha True

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Nikki Tulley Crystal Tulley-Cordova Camille Tulloss Merritt Turetsky James Turner **Ethel Tzizik** Anh Uong

Lowanla Üses Knife Jane Utterback Marie Vachovsky Nathaniel Valenzuela

Ann Vallie Eric Van Horn Yoshira Van Horne Aimee Vance Irene Vasquez Karen Vaughan John Vehrencamp Vasan Venugopalan Norma Villagómez-Márquez

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Kendra Wallis Rick Wampler Timothy Wampler Iim Warhol Lizzie Warner Joseph Wataha Marlene Watson Karan Watson Liza Watson Sarah Watson Sarah Wauahdooah Stephanie Weaver William Wegener Amy Weinstein Toby Welch Corey Welch Mack Weldon Linda Wells-Hott

Kenneth & Deborah Wertheim

Twylia Westling Susan Wethington

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Laura Yankee

Rita Yaroush

Aaron Yazzie

Lawrence Yazzie

Maryam Zaringhalam George Zimmerman





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Emily Wiercinski Administrative and HR Coordinator

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Shayna Gutierrez (Oglala Lakota) Senior Tribal and Business Development Office

Candace McDonough Senior Development Officer

Alicia Mitchell (Cherokee Nation) Senior Development Officer

Kari Rasmussen Senior Development Officer

Hope Archibeque (Chicanx) Development Manager

Iodi DiLascio **Business Development Representative**

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Veronica Reichert (Ugandan) Onsite Program Manager

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Jacob Calderone (Fort Nelson First Nation) Canadian Communications Coordinator

Kaitlan Lyons (Turtle Mountain Band of Chippewa) Membership Manager

Stacy Thacker (Navajo) **Engagement Officer**

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Amy Weinstein Chief Deputy Director

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Bill McIntyre Chief Financial Officer

Angelika Silva Senior Director of Finance and Human Resources

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Karuna Schwartz Director of Individual Giving

Aimee Vance Copywriter (Consultant)

Sue Nunn **Endowment Horizons (Consultant)**

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Zachary Vicenti (Zuni/Jemez Pueblo) Information Technology Officer

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Phat Vuong Information Technology Coordinator

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Kristen Goodfriend Art Director Winds of Change Magazine

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Dr. Johnny Poolaw (*Delaware/Chiricahua Apache/Comanche/Kiowa*)

Director of Student Success

Dr. Tiffany Smith (Cherokee/Muscogee)
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Stacy Smith Ledford (Eastern Band of Cherokee Indians) PK-12 Program Officer

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Monique Harvey (*Navajo*) Student Success Program Manager

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Michaela Henry (Navajo) Events Manager



Tribal – Devon Parfait (*Grand Caillou/ Dulac Band of Biloxi-Chitimacha-Choctaw*)

As the future chief of the Grand Caillou/ Dulac Band of Biloxi-Chitimacha-Choctaw, Devon wants to protect his people's land. His tribes live among the bayous of southern Louisiana. Each year, 30 square miles of their fragile ecosystem wash away due to habitat destruction caused by hurricanes and other forces. A geosciences major, Parfait shared his undergraduate research with Louisiana Senator Bill Cassidy. Parfait interned in the senator's office after graduating and may run for state representative. Devon wasn't always focused as he is now. He admits he struggled in high school and says he avoided homework. Today, he is deepening his tribal connections. He is being tutored by the tribes' current chief. His goals are driving toward a path of helping his tribes and the wider community.

