



### **AISES Council of Elders**

Dr. Bret R. Benally Thompson (White Earth Ojibwe)

Antoinelle Benally Thompson (Navajo)

Steve Darden (Navajo/Cheyenne/Swedish)

Rose Darden (Ute)

Norbert Hill, Jr. (Oneida)

Phil Lane Jr. (Yankton Dakota/Chickasaw)

Stan Lucero (Laguna Pueblo)

**Cecelia Lucero** (Acoma Pueblo)

Dr. Henrietta Mann (Southern Cheyenne)

**Faith Spotted Eagle** (Ihanktonwan Band of the Dakota/ Nakota/Lakota Nation of South Dakota)

### Council of Elders Emeriti

Andrea Axtell (Nez Perce) Mary Kahn (Navajo)

### **Council of Elders in Memoriam**

Horace Axtell (Nez Perce) Eddie Box, Sr. (Southern Ute) Franklin Kahn (Navajo) Bow Lane (Chickasaw) Phil Lane, Sr. (Yankton Sioux) Dr. James May (United Keetoowah Band of Cherokee Indians) Lee Piper, PhD. (Cherokee)

### 2018 - 2019 AISES Board of Directors

**Rick Stephens (***Pala Band of Mission Indians*) Chairman

Gary Burnette (Cheroenhaka (Nottoway) of Southampton County, Virginia)

Vice Chairman/Development Committee Chair Michael Laverdure (Turtle Mountain Band of Chippewa)

Board Treasurer/Finance Committee Chair

**Amber Finley** (*MHA Nation*) Board Secretary/Membership Committee Chair

**Bill Black** Governance Committee Chair

**Kristina J. Halona** (*Navajo*) Nominations Committee Chair **Dr. Grace Bulltail (***Crow Tribe/descendant of MHA Nation***)** Education Committee Chair

**Shaun Tsabetsaye** (Zuni Pueblo) Professional Development Committee Chair

**Barney "BJ" Enos** (Gila River Indian Community)

Dr. John B. Herrington (Chickasaw)

**Dr. Adrienne Laverdure** (Turtle Mountain Band of Chippewa)

\* Alicia Jacobs (Cherokee) Vice Chairwoman/Nominations Committee Chair Nov. 2018 – July 2019

### 2017 - 2018 AISES Board of Directors

**Dr. Twyla Baker** (*Three Affiliated Tribes*) Chairwoman

**Richard Stephens** (Pala Band of Mission Indians) Vice Chairman

**Michael Laverdure** (*Turtle Mountain Band of Chippewa*) Treasurer/Finance Committee Chair

Amber Finley (Three Affiliated Tribes) Secretary/Membership Committee Chair

**Bill Black** Governance Committee Chair

Shaun Tsabetsaye (Zuni Pueblo) Professional Development Committee Chair

Alicia Jacobs (Cherokee) Nominations Committee Chair

**Dr. Grace Bulltail** (Crow, Mandan, Hidatsa, and Arikara Education Committee Chair

Barney "B.J." Enos (Gila River Indian Community)

Kristina Halona (Navajo)

Dr. John B. Herrington (Chickasaw)

**Dr. Adrienne Laverdure** (Turtle Mountain Band of Chippewa)

### Founders

A.T. "Andy" Anderson (Mohawk) Jerry Elliott High Eagle (Cherokee/Osage) Carole Metcalf Gardipe (Penobscot/Passamaquoddy) George Thomas (Cherokee)

# Student Representatives 2017-2018

Senior National: Hannah Balderas (Three Affiliated Tribes, Santee Sioux and Little Shell Ojibwa), University of North Dakota

Junior National: Steven Just (Sisseton Wahpeton Sioux Tribe), University of Minnesota

Region 1: Cody Kapotak (Portage Creek Village), University of Alaska, Anchorage

Region 2: Ely Boone (Karuk), Humboldt State University

Region 3: Chris Greenstone (Navajo), Northern Arizona University

Region 4: Madison McMillen (Cherokee), University of Arkansas

**Region 5: Emily Falcon** (*Turtle Mountain Chippewa*), **University of North Dakota** 

**Region 6: Bailee Hopkins-Hensley** (Choctaw Nation of Oklahoma), **Cornell University** 

**Region 7: Kayla Johnson** (Eastern Band of Cherokee Indians), **University of Mississippi** 

# Student Representatives 2018-2019

Senior National: Steven Just (Sisseton Wahpeton Sioux Tribe), University of Minnesota

Junior National: Jayne Sandoval (Navajo), Northern Arizona University

**Canada National: Brielle Thorsen** (Saddle Lake Cree Nation), **Queen's University** 

Region 1: Cody Kapotak (Portage Creek Village), University of Alaska, Anchorage

**Region 2: Desiree Brazeau** (Seneca Nation of New York), Loma Linda University

Region 3: Cydney Walters (Navajo), University of Arizona

Region 4: Katelynn Morgan (Cherokee Nation), University of Arkansas

**Region 5: Sydney Schad** (Cheyenne River Sioux Tribe), **University of South Dakota** 

**Region 6: Adrian Riives** (Sault Ste. Marie Tribe of Chippewa Indians), **Rensselaer Polytechnic Institute Region 7: James Murr** (Lumbee Tribe), **University of North Carolina-Pembroke** 



- 2 Message from the Chairman and Chief Executive Officer
- 4 The Business of AISES
- 6 Why STEM & Diversity Matters
- 7 AISES by the Numbers
- 8 Where We Work
- 10 Advisory Councils
- 12 Program Highlights

- 16 Scholars
- 20 National Conference
- 22 Leadership Summit
- 23 Regional Conferences
- 23 Canadian Conference
- 24 National Conference Exhibitors
- 26 Sponsors
- 29 Award Winners

- 33 Conversations and Collaborations
- 35 Winds of Change Magazine
- 36 Sequoyah Fellows
- 38 Donors
- 43 Staff
- 44 Circle Partners



A Message from the AISES Board Chairman and the Chief Executive Officer





### **AISES Family and Friends,**

It is with much excitement that we present to you the 2018 Annual Report of the American Indian Science and Engineering Society (AISES). We are proud of our 40+ year history of providing opportunities in Science, Technology, Engineering, and Math (STEM) to Indigenous students and professionals. As we look to our future, we are committed to furthering the AISES mission by offering more programming, scholarships, internships, and other important STEM opportunities.

### **Diverse Programming**

The first step in building the Indigenous STEM workforce required to meet the growing tribal, national, and global economic needs begins with programming. Activities like providing culturally-contextualized curriculum to teachers; educating students and their parents about the importance of STEM education and career opportunities; hosting important events like the Leadership Summit, Regional Conferences, Canadian National Conference, and the U.S. National Conference; selecting Professional Award Winners; working with Tribal leadership to reinforce the importance of STEM in education and tribal workforce development; interacting with our advisory councils who represent the corporate, academic, tribal, nonprofit and governmental sectors; and providing critically-needed scholarships and internships for students.

For many years, AISES has focused its work primarily in the U.S. but over the last few years, and especially in 2018, we have really worked hard to increase our reach and presence in Canada. We now have the Canadian Indigenous Advisory Council (CIAC) working hand-in-hand with the AISES Board of Directors to ensure we are expanding our opportunities for Indigenous Canadian students and professionals. Our *Winds of Change* magazine now circulates in Canada with a growing list of Canadian members and subscribers. We are proud to see the growth of the Canadian part of our AISES family.

### **Organizational Growth**

It is particularly appropriate to acknowledge the AISES staff, board of directors, and advisory council members who have contributed to the success of the organization. They are responsible for daily operations, annual events, and activities, and their commitment to AISES through the years is reflected in their hard work, dedication, and leadership. They are the grounding forces behind our work.

Our growth has been tremendous over the last five years with annual revenue growing from approximately \$2.5 million to over \$7 million which has allowed us to provide even more STEM programming



and support to more Indigenous students and professionals. With this unprecedented growth also comes immense responsibility, and thus the AISES leadership recognized the need to develop and implement a long-term strategic plan to keep AISES financially stable and organizationally strong as we continue to grow and move forward. In 2018, with a generous grant from Wells Fargo, AISES began working on a five-year strategic plan. The plan is scheduled to be completed in late 2019.

### **Recognized Partnerships**

Our work is also driven by many key partnerships. Without these partnerships we would be unable to effectively focus our efforts and improve lives through STEM education and career development. Working with our partners has enabled brighter futures for Indigenous students and professionals. Our partnerships enhance creativity and innovative problem solving, and support ways we can increase and improve our services. We value our partners and all they have done and continue to do to help us capitalize on key opportunities. We owe a tremendous debt of gratitude to our corporate, tribal, academic, governmental, and nonprofit partners for supporting us in our mission.

### **Financial Strength**

AISES maintained its strong financial position in 2018. All the financial support during the year was derived from sponsorships, grants, a growing endowment, and AISES Publishing, Inc. (Winds of Change magazine), which together provided AISES with the funding for the continued success and growth of the organization. In 2018, we expanded our grant portfolio and added many new sponsoring partners.

### This Year's Report

After 41 years, AISES is stronger than ever and positioned to continue to grow and succeed. We hope you read this report with great interest and excitement about the work of the organization as you learn more about the variety of programs, activities, and services AISES provides. As you read, you will see that we are making multilevel investments to give our members, partners, and others the tools they need to drive progress and innovation in STEM studies and careers. As we move into the future, we will continue to be a source of opportunity to support these growing networks. And we will continue to increase the representation of Indigenous people in STEM studies and careers far and wide. With your help, everything is possible! Thank you.

**Rick Stephens** (Pala Band of Mission Indians) Chairman, AISES Board of Directors

Sanah EchoHawk

**Sarah EchoHawk** (*Pawnee Nation of Oklahoma*) Chief Executive Officer, AISES



### <u>VISION</u>

The vision of the American Indian Science and Engineering Society (AISES) is for the next seven generations of Native people to be successful, respected, influential, and contributing members of our vast and ever-changing global community.

### MISSION

Founded in 1977, The American Indian Science and Engineering Society is a national nonprofit organization focused on substantially increasing the representation of American Indians, Alaska Natives, Native Hawaiians, Pacific Islanders, First Nations, and other indigenous peoples of North America 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 new approaches and forwardthinking 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 extended 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 Native people by encouraging initiative, leadership, and decisionmaking.

#### Culture

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

### **STRATEGIES**

### Advancing

Educational and Career Knowledge while Embracing Native Culture and Tradition

#### Empowering

Native People through Relationships and Innovative Resources

**Creating and Sustaining** the AISES Community through a Full Circle of Support Services





# **OBJECTIVES**

#### **Build Awareness**

Increase awareness among Native people about STEM education and career opportunities.

Foster Partnerships Develop and strengthen diverse partnerships with key STEM stakeholders.

Provide Support Services Design and deliver comprehensive and effective programmatic and financial STEM support services.

Maintain Effective Organizational Structure Support the staff, board, mission, and membership through effective infrastructure and systems.





### PROGRAMMATIC Focus areas

# Pre-College: Awareness and Retention

AISES creates and administers programs, projects, initiatives, and events to provide Native pre-college students, parents, and educators, exposure to resources and opportunities to engage them in STEM.

#### **College: Access and Success**

AISES creates and provides programs, events, projects, initiatives, and financial resources for Native college students to increase access to and boost success in STEM studies and career development.

# Professional: Leadership and Change

AISES supports a network of Native STEM professionals through professional chapters, awards, career development resources, and research and mentoring opportunities.

### Strategic Partnerships and Research

AISES identifies and engages in strategic partnerships and conducts research to further our mission of substantially increasing the representation of Natives in STEM studies and careers.





### WHY STEM MATTERS

### STEM is where the jobs are

Between 2017 and 2027, the number of STEM jobs will grow 13%, compared to 9% for non-STEM jobs—with positions in computing, engineering, and advanced manufacturing leading the way. (*Change the Equation*)

### **STEM occupations pay higher wages**

The national average for STEM job annual salaries is \$87,570, where the national average for non-STEM occupations sits at roughly half—\$45,700. (*Bureau of Labor Statistics*)

#### We are not producing enough STEM workers

By 2020, there will be one million more computing jobs nationally than there will be graduates to fill them, resulting in a \$500 billion opportunity gap. (Bruce E. Aust, Vice Chairman of NASDAQ/President of the NASDAQ Entrepreneurial Center)

# We are not providing enough quality STEM education

The U.S. placed 38th in math and 24th in science out of 71 countries. (*Pew Research Center*)

### We are losing our competitive edge

Of 35 members of the Organization for Economic Cooperation and Development, the U.S. ranks 30th in math and 19th in science. (*Pew Resource Center*)







### **THE STATE OF NATIVE AMERICAN STEM EDUCATION**

### The pool of Native American and Alaska Native (Al/AN) STEM College Students is not increasing

Native Americans and Alaska Natives earning an undergraduate degrees in Science or Engineering actually declined by 12% going from 3,341 in 2006 to 2,930 in 2016. (*National Science Foundation*)

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

Only 8% of ACT-Tested American Indian and Alaska Native 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*)

### Today<sup>1</sup>

- 4,800+ Individual Members
- 20 Professional Chapters
- 190 College/University Chapters
- 2 Tribal Chapters (New!)
- 158 K-12 Affiliated Schools enrolling more than 55,000 Native Students
- \$12+ Million in Academic Scholarships

### **2018**<sup>2</sup>

- Membership: 4,707
- Annual Revenue: \$7,107,185
- How we spent our funding in 2018: Administration and Development = 13% Programs = 87%

### **2017**<sup>3</sup>

- Membership: 4,460
- Annual Revenue: \$6,162,987
- How we spent our funding in 2017: Administration and Development = 18% Programs = 82%

### **2016**<sup>4</sup>

- Membership: 3,984
- Annual Revenue: \$5,435,512
- How we spent our funding in 2016: Administration and Development = 15% Programs = 85%

### **2015**<sup>5</sup>

- Membership: 3,727
- Annual Revenue: \$3,131,024
- How we spent our funding in 2015: Administration and Development = 24% Programs = 76%

### **2014**<sup>6</sup>

- Membership: 3,289
- Annual Revenue: \$2,740,432
- How we spent our funding in 2014: Administration and Development = 27% Programs = 73%

### **2013**<sup>7</sup>

- Membership: 2,819
- Annual Revenue: \$2,581,298
- How we spent our funding in 2013: Administration and Development = 31% Programs = 69%
- 1 Audited financial statements and IRS 990 forms are available at: www.aises.org.
- $2\;$  Revenue and program funding reported in 2018 audited financial statements.
- 3 Revenue and program funding reported in 2017 audited financial statements.
- 4 Revenue and program funding reported in 2016 audited financial statements.
- 5 Revenue and program funding reported in 2015 audited financial statements.
- $\, 6 \,$  Revenue and program funding reported in 2014 audited financial statements.
- 7 Revenue and program funding reported in 2013 audited financial statements.

# **AISES BY THE NUMBERS**







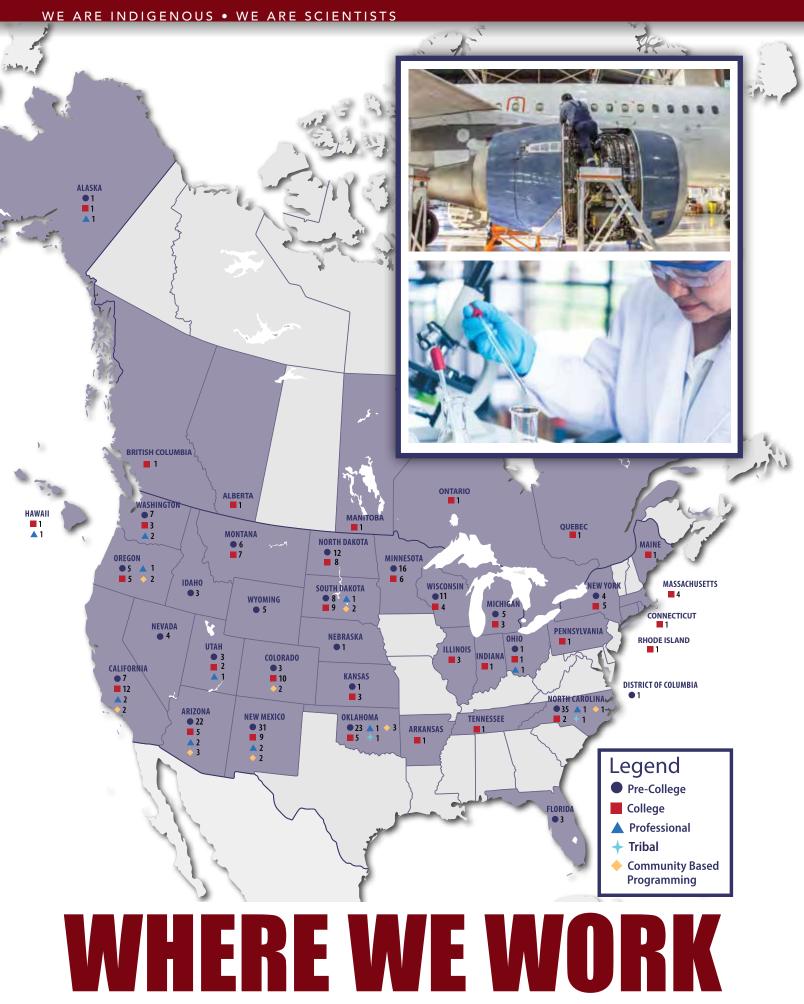


Chartered College and University Chapters Throughout the United States and Canada



American Students





### AMERICAN INDIAN SCIENCE AND ENGINEERING SOCIETY







### **Overview**

AISES currently has a total of eight advisory councils: Academic Advisory Council (AAC), Canadian Indigenous Advisory Council (CIAC), Corporate Advisory Council (CAC), Council of Elders, Editorial Advisory Council (EAC), Government Relations Council (GRC), Professional Chapter Council (PCA), and Tribal Nations Advisory Council (TNAC). Each Council plays an important role in advising AISES in its work for their respective sectors; with the Council of Elders advising the board and the organization on traditional and cultural matters. Each advisory council is led by a chairperson (or chairpersons) who is appointed by the CEO and the AISES Board chairperson. The chairperson(s) of each advisory council is responsible for appointment of members to the advisory councils. Typically, the advisory councils meet in-person twice annually — once at the AISES leadership summit in the spring and once at the AISES national conference in the fall. Councils may also have other in-person or video/teleconference meetings throughout the year as determined by the chairperson(s) and the AISES CEO. Advisory Council Chairpersons attend all AISES Board meetings to report on council business and to offer input to the board of directors in regard to their respective sectors.

#### Academic Advisory Council: The Academic

Advisory Council (AAC) 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.

#### Canadian Indigenous Advisory Council: The

Canadian Indigenous Advisory Council (CIAC) of AISES consists of representatives from the Canadian Indigenous science, technology, engineering, and math (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, Metis, and Inuit) members. In addition, the CIAC also 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 engineering, science, and other related technology disciplines.

**Corporate Advisory Council:** The Corporate Advisory Council (CAC) is comprised 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 to the AISES' Chief Executive Officer and the Board of Directors. **Council of Elders:** The Council of Elders is nominated to and appointed by the Board of Directors and accountable to the Board of Directors for the purpose of cultural guidance to the AISES family as a whole. The Board of Directors approves the qualifications, appointment process, and responsibilities and will communicate this policy to the AISES membership.

**Government Relations Council:** The Government Relations Council (GRC) 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.

**Professional Chapter Council:** The Professional Chapter Council (PCC) of AISES is consists of representatives of the AISES professional chapters whose goal is to provide guidance and representation for professional chapters, to advise AISES on issues important to professional chapters and their members, to increase opportunities for AISES professionals, and to support the AISES mission. **Tribal Nations Advisory Council:** The Tribal Nations Advisory Council (TNAC) of AISES consists of representatives from Tribal Nations in the United States and Canada. The primary role of the TNAC is to advise AISES on issues of relevance and importance to Tribal Nations. In addition, the TNAC also works to assist AISES in creating opportunities for Tribal Nations and their citizens, and to support the AISES' mission of substantially increasing the representation of Indigenous peoples of North America in STEM.

**Editorial Advisory Council:** The Editorial Advisory Council supports the concepting, development, and integrity of the content of AISES publications. For the organization's signature communications vehicle, *Winds of Change* magazine, the council provides guidance on feature topics, background on those topics, and contacts for developing the storylines. With the support of the council, AISES is able to provide content that shows a path to STEM careers, information the audience overwhelmingly reads and values.





### AISES uses four key strategies to support a pathway for Native people in STEM

**#1** Awareness and Retention for Native Pre-College Students, Parents, and Educators

Start the pathway by providing Native K-12 students, parents, and educators exposure to quality curriculum, programs, and opportunities to interest and engage them in STEM.

**#2** Increase Access to and Success in STEM Higher Education

Continue the pathway through higher education by providing financial and academic support and opportunities to Native college students to increase the number of successful Native STEM majors.

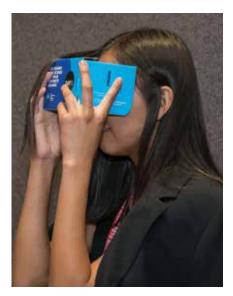
**#3** Provide Leadership and Promote Change to Improve Professional Opportunities in STEM

Support the pathway to keep Natives in STEM careers through support of professional Native STEM network and career development resources.

**#4** Identify and Leverage Strategic Partnerships and Conduct Research that Supports Natives in STEM

Illuminate the pathway by identifying the challenges and successes in the Native STEM workforce. Development is through research, data collection, and partnerships with other key STEM stakeholders.





### ASSIST Project – Supported by the National Science Foundation (NSF)

Funded by the National Science Foundation (NSF) and in partnership with Great Minds in STEM (GMiS); Latinos in Science and Engineering (MAES), National Society of Black Engineers (NSBE), Advancing Chicano/Hispanics & Native Americans in Science (SACNAS), Society of Hispanic Professional Engineers (SHPE), and the Society of Women Engineers (SWE), AISES is working to support Native Americans who are early-career faculty, graduate students, and post-doctoral professionals in any field of engineering. The overall focus of the project is to target and support those who are traditionally underrepresented in engineering fields. (*College, Professionals*)

### Capacity Building for AISES – Supported by Wells Fargo

In 2018, AISES received a two-year \$250,000 grant from the Wells Fargo Foundation to help ensure AISES has the capacity to continue to grow and support long-term sustainability. AISES is using the funding to: (1) Address Immediate Staffing Needs, (2) Develop a Five-Year Strategic Plan/Business Plan, (3) Create a Succession Plan, and (4) Provide Critical Business Training to Support its CEO, Management Team, Staff, and Board.

### **Energy Challenge Competition**

The Energy Challenge is an energy-specific science and engineering fair designed to engage and encourage middle school and high school students to participate in STEM research through a creative hands-on, project development process. The individuals and teams endure a rigorous scoring system and compete against a multitude of other impressive teams. The top two projects are awarded a trip to Washington, D.C., to receive their awards, present their projects to Indian Affairs leadership, and participate in educational activities during their stay in our nation's capital. (*Pre-College*)

### Growing the Legacy Program – Supported by Intel

In 2015, AISES received a \$1.32 million four-year commitment from Intel to support undergraduate and graduate scholarships for Native Americans in Computer Science fields. The scholarship program supports up to 40 Native Americans annually by providing them with financial support, Intel mentors, paid internships, and an Intel job upon successful graduation. (*College*)

### Internships

The AISES Internship program provides students with applied work experience in STEM fields with corporate and government agencies that can open the door to potential career opportunities. Placing students in 10-week summer positions with partner agencies also promotes advanced study to the graduate level and assists students in developing professional networks. *(College)* 

### **Keepseagle - AASONA**

AISES received a two-year \$715,000 grant from the Native American Agriculture Fast Track Fund (NAAFTF) to support agricultural science scholarships and education for Native Americans in farming and ranching professions. AISES has a long history of providing agricultural science programming and resources including conference sessions, research, internships, and scholarships. Through this project, AISES will provide comprehensive support to current and potential Native American farmers and ranchers. Twenty 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 supports 10 professionals in agricultural fields to mentor colleges students. (*College, Professionals*)

### Lighting the Pathway Program - Supported by National Science Foundation

In 2014, AISES was awarded a \$1.5 million five-year grant from the National Science Foundation to create the "Lighting the Pathway to Faculty Careers for Natives in STEM" program. *(College)* 



### National American Indian Virtual Science & Engineering Fair

The National American Indian Virtual Science and Engineering Fair (NAIVSEF) is a Society for Science and the Public (SSP) affiliated science fair and as such is part of the larger SSP fair network. The NAIVSEF differs from other SSP-affiliated fairs in that it is a virtual science fair. AISES awards cash prizes to senior and junior division winners and their sponsors to attend the Intel International Science and Engineering Fair held in a major U.S. city. (*Professionals*)

### Native Financial Cents – Supported by Wells Fargo

In 2018, AISES received a two-year \$325,000 grant to develop "Native Financial Cents," a curriculum utilizing Wells Fargo's Hands on Banking<sup>®</sup> curriculum. Through the project, AISES will develop three culturally-contextualized instructor guides and participant workbooks. The project will roll out nationally in 2020. The goal of this project is to help Native American high school and college students learn financial management skills including financing higher education. (*Pre-College, College*)

### Native Youth and Community Project (NYCP) – Supported by the U.S. Department of Education

In 2016, AISES received a four-year grant totaling almost \$700,000 to work with the Cheyenne-Eagle Butte Schools and the Cheyenne River Sioux Tribe (CRST) to address barriers to college and career readiness, specifically in the fields of science, technology, engineering, and mathematics (STEM), among American Indian students. In 2018, AISES received another \$1.89 million NYCP grant to expand AISES' STEM college and career readiness programming to all schools on the Cheyenne River Sioux Tribe (CRST) reservation. (*Pre-College*)

### Next Generation of Native American Coders Initiative – Supported by Intel

The Intel Next Generation of Native American Coders Initiative – Year 3 Course in Computer Science Career and Technical Education engaged students currently enrolled in Intel's Native American Coders Program in hands-on independent projects, technical education integrating Navajo culture, interactive CS skill-building activities, professional and peer mentorship, and college, career, and leadership development. This AISES-developed course was implemented at two Navajo Nation schools: Chinle High School and Greyhills Academy High School. Students developed practical, project-based understanding of computer science and its applications, a more in-depth awareness of the educational and career opportunities in computer science and related fields, and cultivated critical skills necessary to be successful in CS higher education and workforce. (*Pre-College*)



### **Research and Poster Presentations and Competitions**

Pre-college, undergraduate, graduate students, and professionals showcase their STEM research at 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 professionals. These presentations give students and professionals the opportunity to share their research with their AISES family, and provide students the opportunity to get feedback on their work. (*Pre-College, College, Professionals*)

### **Scholarships**

AISES helps students move forward in their educational journeys by providing a broad ranges 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. (*College*)

### **SPRK-ing Interest in Computer Science**

Grants from Motorola Solutions Foundation, General Motors, Northrup Grumman Foundation, Infosys Foundation USA, and Shakopee Mdewakanton Sioux Community supported AISES SPRK-ing Interest in Computer Science program in 2018. Through this project, AISES works to increase awareness, interest, and competency in STEM and Computer Science (STEM+CS) among Native K-12 students by engaging them in hands-on STEM activities powered by Sphero BOLT technology. Students learn the principles of the scientific method and computer science using cutting edge technology with real-world applications that respectfully incorporate culture. By combining STEM and computer science, AISES inspires curiosity, creativity and innovation in a culturally supportive environment. (*Pre-College*)

### STEM & Business – Supported by Minority Business Development Agency and Comcast Foundation

AISES was awarded \$200,000+ grant from the Minority Business Development Agency (MBDA) with the U.S. Department of Commerce, and \$100,000 from the Comcast Foundation to support its STEM & Business program. This project, Growing STEM Business in West, aims to increase the number of STEM businesses owned by American Indian, Alaska Native, and/or Native Hawaiian professionals or college students Arizona, Nevada and Utah. 24 Native professionals and college students who are interested in further developing a STEM-business will receive culturally-contextualized professional development focused on Access to Capital, Business Training, Federal Program Coaching, and Business Incubators and Accelerators. (*College, Professionals*)



\*To learn about all of AISES Programs and Project, visit aises.org



### A.T. Anderson Memorial Fund Scholars

Supported by: AMB Foundation, Aristocrat VGT, Boeing, Chevron, Lockheed Martin, NextEra Resources, Northrup Grumman Foundation, Oracle America, Inc.. San Manuel Band of Mission Indians

Juliana Alden (Native Hawaiian Ancestry) Taymee Brandon (Turtle Mountain Band of Chippewa Indians) Cathy Covington (Confederated Tribes of the Colville Indian) Caleb House (Cherokee) Justin Kaye (Navajo) Shelby Snyder (Navajo) Matthew French (Navajo) Kelsea Hosoda (Native Hawaiian) Keanu Hunter (Shinnecock Indian Nation) Madison Petree (Cherokee) Crystal Tulley-Cordova (Navajo)

### **BNSF Railway Scholars**

Jacob Willis (Choctaw Nation) Madison Phelps (Sisseton Wahpeton Dakota Oyate) Avery Crowe (Choctaw Nation)

### Chevron Corporation Scholars

Shay Allison (Navajo) Corbin Baldwin (Navajo) Kelly Charley (Navajo) Abbie Connor (Peoria Indian Tribe of Miami,OK) Avery Crowe (Choctaw Nation of Oklahoma) Brenden Dominick (Choctaw Nation of Oklahoma) Natalia Etsitty (Navajo) Camryn Harrold (Cherokee Nation) Henry Harshfield (Chickasaw Nation) Alyvia Hildebrand (Menominee)

### **Intel Graduate Scholars**

Jordan Kennedy (Blackfeet Seneca) Sandra Manosalvas-Kjono (Kahnawake Mohawk) Kelsea Hosoda (Native Hawaiian) Chad Auginash (Red Lake Band of Chippewa Indians) Anthony Nicholson (Navajo) Irene Vasquez (Southern Sierra Miwuk/Paiute) Lisa Willis (Navajo) Damon Adams (Three Affiliated Tribes) Tex Etsitty (Navajo) Onendanega Rhoades (Nez Perce Tribe, Cherokee Nation) Anthony Smith-Begay (Gila River Community) Jared Tenijieth (WMAT) Keely Yazzie (Navajo) Andrew Nicolai (Organized Village of Kwethluk) Narea Wadsworth (Pyramid Lake Paiute Tribe) Tamee Livermont (Oglala Lakota)

Emily Bauers(Navajo) KellyCharley(Navajo)

Teri Lowry (Lumbee) Sandra Manosalvas-Kjono (Kahnawake Mohawk) Michael McWilliams (Caddo Nation) Christian Parks (Navajo enrolled (also 1/4 Sioux)) Madison Phelps (Sisseton Wahpeton Dakota Oyate) Serdjan Rolovic (Osage) Sierra Sallee (Cherokee Nation) Sierra Seale (Choctaw Nation of Oklahoma) Riley Vancuren (Cherokee & Choctaw)

Brandon Werner (Cherokee) Jayce Miller (Chickasaw) Dianne Williams (Member-Oneida Nation of Wisconsin) Benjamin Parker (Squaxin, Turtle Mountain Ojibwe, Cree) Michael Charles (Navajo)

### Intel Undergraduate Scholars

Aidan Fredericks (Hopi Tribe) Austin Kirk (Osage) Christian Parks (Navajo & Sioux)) Daniel Holland (Muscogee (Creek)) David Jacob Bowman (Choctaw) Derek Drew (Cherokee Nation) Donevan Gravelle (Laguna Pueblo) Emma Harper (Cherokee) Hunter Johnson (Aleut) Joshua Thomas (Seneca, Iroquois Federation)

### ExxonMobil

Nathan Ballard (Cherokee Nation)

### NextEra

Chris Soltero (Chemehuevi Indian Tribe) Sean Milanovic (Agua Caliente Band of Cahuilla Indians) Dusti Bacon (Chemehuevi Indian Tribe) Steven Leash (Cahuilla Band of Indians) Tiffany Adams (Chemehuevi Indian Tribe)

### Northrup Grumman

Kristy Carpenter (Native Village of Afognak) Ki Fredeen (Cook Inlet Region, Inc. Descendant) Kieran Lynch (Turtle Mountain Chippewa) Max Briggs (Rincon Band of Luiseño Indians) Nathan Yellowhair (Navajo) Paul Stoner (Native Village of Savoonga) Riley Vancuren (Cherokee & Choctaw) Serdjan Rolovic (Osage) Shay Allison (Navajo Nation) Sierra Sallee (Cherokee Nation) Stephen Kerns (Lumbee Tribe of North Carolina)

La'ona DeWilde(Alaska Native - Huslia Village)

Cody Gonzales (Quechan) William Madrigal (Cahuilla Band of Mission Indians) Kaitlyn Snodgrass (Chemehuevi Indian Tribe) Leanna Mike (29 Palms Band of Mission Indians)

Amber Jaitrong (Patawomeck Indian Tribe of Virginia)

### Leadership Summit Travel Scholars

Drew Williams (Turtle Mountain Band of Chippewa Indians) Dianne Williams (Oneida Tribe of Indians) Tamija Woods (Oneida Tribe of Indians) Cheyenne Hill Defender (Pueblo of Laguna) Makayla Platt (Central Council of the Tlingit & Haida Indian Tribes) Mark White Bull (Standing Rock Sioux Tribe) Haley Hilborn (Native Village of Pitkas Point) Zoee St. Claire (Turtle Mountain Band of Chippewa Indians)

### National Conference Travel Scholars

Alexis Archambault (Standing Rock Sioux Tribe) Austyn Dagen (Minnesota Chippewa Tribe) Cody Kapotak Portage Creek Village) Devon Smith (Navajo Nation) Dominic Nudo (Confederated Tribes of Siletz Indians) Jayne Sandoval (Navajo Nation ) Keely Yazzie (Navajo Nation )

Interns

**Anthony Vojtech (***Northern Cheyenne***)** Bonneville Power Administration Wildlife & Fisheries

Jennifer Jones (Navajo) Bonneville Power Administration Transmissions Services Madison Phelps (Sisseton Wahpeton Oyate) Mariah Lighthall (Cherokee Nation) Melissa Jacquez (Navajo Nation) Mikaela Ponca-Montoya (Osage Nation) Shantal Smart (Navajo Nation) Tvetene Carlson (Native Village of Cantwell)

**Zachary Felsman** (Confederated Salish and Kootenai Tribes) Bonneville Power Administration Transmissions Services

Samuel Ragle (Choctaw) BMM Testlabs



## LIGHTING THE PATHWAY TO FACULTY CAREERS FOR NATIVES IN STEM FELLOWS

Supported by the National Science Foundation, the "LTP" Program is designed to increase the representation of Native Americans in STEM faculty positions in higher education through the creation and support of an intergenerational community of undergraduate and graduate students, postdoctoral scholars, and junior and senior faculty members.

### 2014 - 2015

Angelita Bearquiver (Northern Cheyenne) Rene Begay (Navajo) Rebecca Buckman (Hopi) Katherine Crocker (Kaw Nation) Joshua Danny (Navajo) Megan Dunn (Cherokee Nation) **Devin Etcitty** (Jemez Pueblo, Navajo) Amber Eule-Nashoba (Choctaw Nation) **Bradley Ganoe** (Anishnaabe) **Jennifer Remme** (Fort Peck Assiniboine Sioux) Ariel Helms (Cherokee Nation) Kelsea Hosoda (Native Hawaiian) Carrie Joseph (Hopi) **Nicole Kenote** (Menominee) Sandra Kjono (Mohawk) Janie Locklear (Lumbee)

### 2015 - 2016

Chad Auginash (Red Lake Chippewa) Shanadeen Begay (Navajo) Johnny Buck (Yakama) Katrina Claw (Navajo) Jesse Gibson (Poarch Creek) Ciarra Greene (Nez Perce) Candice Guy (Delaware) Megan Kiedrowski (Sault Ste. Marie Chippewa) Naomi Lee (Seneca Nation of New York) Rebekah Lester (Osage) Kristen Lycett (Cow Creek Umpqua)

Jacinda Mainord (Village of Selawik, Village of White Mountain) Jack Martin (Navajo) Alexander McGirt (Lumbee) Na'ta'ne Miles (Comanche, Pine Ridge Oglala Sioux, Salt River Pima Maricopa) **Jocelyn Painter** (Winnebago Tribe of Nebraska) Keith Parker (Yurok) Anthony Barela Nystrom (Chickasaw Nation) Mackenzie Pearson (Menominee) **Jesse Peltier** (Turtle Mountain Chippewa) **Darryl Reano** (Acoma Pueblo, Santo Domingo Pueblo) Biidaaban Reinhardt (Sault Ste. Marie Chippewa) Joshua Thomas (Seneca Nation of New York) Ranalda Tsosie (Navajo) Crystal Tulley-Cordova (Navajo)

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

### 2016 - 2017

Sarah Aarons (Village of Unalakleet) Mark Berger (Oneida Nation of New York) Edward Chew (Tuscarora) Alexander Cody (Kickapoo Tribe of Kansas) Kyle Dahlin (Native Hawaiian) Tammi Duncan (Navajo) Maxwell Goldstein (Seminole Nation of Oklahoma) Danielle Guzman (Nez Perce) Joshua Lelemia Irvine (Native Hawaiian) Laurel James (Yakama) Jordan Kennedy (Blackfeet) Donna Kuehu (Native Hawaiian) Moses Leavens (Chippewa Cree) Lizzie Lightning (Ponca Tribe of Oklahoma) Benjamin Lilley (Eastern Cherokee)

### 2017 - 2018

Alissa Baker-Oglesbee (Cherokee Nation) Maryrose Barrios (Tule River) Joel Begay (Navajo) Landon Charlo (Salish Kootenai) Kali Dale (Minnesota Chippewa) Lauren Dupuis (Kootenai) Kristina Gonzales (Navajo) Daniel Henry (Turtle Mountain Chippewa) Samantha Hilborn (Laguna Pueblo) Lydia Jennings (Pascua Yaqui) Michaela Long (Navajo) Kevin McPherson (Not listed) Jenny Nakai (Navajo) Cheyenne Nelson (Santa Ynez Chumash Mission) Talia Quandelacy (Zuni) Kyle Roessler (Salish Kootenai) Kenneth Swift Bird (Pine Ridge Oglala Sioux) Jackie Taylor (Choctaw Nation) Sidney Thompson (St. Regis Mohawk) Kayle Thunstrom (Minnesota Chippewa) Lani Tsinnajinnie (Navajo) Tada Vargas (Cheyenne River Sioux) Noelani Villa (Kaw Nation) Clayton Wauneka (Navajo)

Brandi Kamermans (Navajo) Sierra Kafuman (Shinnecock Indian Nation) Melissa Naeimi (Muscogee Nation) Esme Roddy (Sault Ste. Marie Chippewa) Tyler Rust (Pine Ridge Oglala Sioux) Corbin Schuster (Yakama) Olga Skinner (Village of Kwethluk) Lauren Smythe (Hydaburg Cooperative Association) Nizhoni Tallas (Navajo) Jacob Walker-Swaney (Piqua Shawnee Tribe)



# 2018 EVENTS

### **National Conference**

The AISES National Conference has become the premier events for Indigenous STEM professionals and students attracting members and attendees from the U.S. and Canada, and as far away as Alaska and Hawai'i. It is an unparalleled opportunity to connect companies with close to 2,300 conference participants who are focused on learning the important trends, gaps, essentials, and research impacting Indigenous STEM studies and careers. At the National Conference, participants make connections and they find the resources and services to advise and advance their academic work and careers.

The National Conference works towards achieving the AISES mission by providing students and professionals access to career pathways, professional and leadership development, research, and networking while also meaningfully incorporating Native culture into this signature event.



Registration Type	2014	2015	2016	2017	2018
Professionals	184	278	289	381	487
College Students	509	587	615	597	550
HS Students & Chaperones	138	267	304	259	633
Exhibitors & Sponsors	438	562	548	562	619
Educators & Judges	61	76	75	76	
Speakers	58	41	65	39	
Other	3	4	4	3	8
Total	1,391	1,815	1,900	1,917	2,297

nor the Past Be the Future





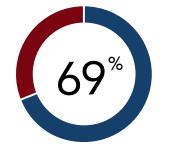
### Conference Attendance

For 41 years, the AISES National Conference has provided:

- STEM career pathway awareness and exploration
- Professional development skill-building workshops
- Career and community leadership development sessions
- Research education, training, exchange and dissemination
- Networking
- Mentorship
- Career, internship, and academic opportunities during the largest College and Career Fair in Indian Country
- Pathways for integrating STEM research and careers with Native culture and identity
- Interactions with Native elders and cultural ceremonies to motivate and empower Native students and professionals to persist and excel in their STEM studies and careers.

The 2018 AISES National Conference was held October 4–6 at the Cox Convention Center in Oklahoma City, Oklahoma.

### **Participant Race**



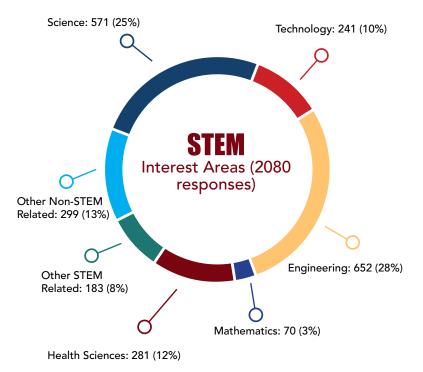
69% - Indigenous: 1591\* 31% - Non-Indigenous: 706

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









### **Attendee Satisfaction**

In a post-conference survey attendees were asked to rate their overall conference experience on a scale of 1 to 5. The average response was 4.5.





### Leadership Summit

The AISES Leadership Summit is focused on honing strategies to enable STEM professionals and emerging leaders in STEM fields to think proactively about their goals. This annual gathering focuses on the core competencies and capacities of individuals. It stimulates participants to think about their responsibilities and the impact of their work and studies on the global STEM community. It enables participants to stop, think, and plot their incredible life journey, and it supports them as they process the lessons and opportunities they come away with.

AISES designs and presents a top-notch conference of action-packed days filled with meetings, tours, and events. Complementing all the activities are multiple forms of learning, from written materials and workshops to a choice of over 40 conference sessions. Students and professionals, including advisors and chaperones, are part of our Leadership Summit gatherings.

Within the Leadership Summit was a lineup of AISES program events. The Faculty Career Development Workshop was a daylong program for Native people preparing to become STEM faculty. Pre-college Energy Challenge poster participants presented their winning concepts and had an opportunity to showcase their work before skilled career professionals, who offered advice and feedback. Each student's project is based on an energy challenge affecting his or her community, and students use a two-phase engineering process to create a real-world solution.

Together participants build a shared support base for the growth and development of essential leadership skills. The 2018 Summit engaged participants with an uplifting presentation by keynote speaker, Matika Wilbur. She delivered an abundantly illustrated, poignant presentation as she shared her insights and experiences as founder of the innovative Project 562, a multiyear effort to collect stories and photos from over 562 U.S. tribes. The goal of Wilbur's archive is to change the way Indigenous people are seen by illuminating the diversity of Native America, defying stereotypes, and capturing essential messages from individuals, communities, and nations about who they are. Project 562 also captures the injustices and challenges that Native Americans and Alaska Natives endure today, while honoring the bravery, resolve, and resiliency of America's indigenous citizens and communities. This sharing of contemporary information, digital images, and stories is suitable for different audiences and will be relevant decades into the future. In 2018, the Leadership Summit was held at the Viejas Casino and Resort in Alpine, California.







### **2018 Regional Conferences**

Every spring, AISES College and Professional Chapters hold Regional Conferences in the U.S. and Canada to champion each other and expand their knowledge and skills through a wide variety of workshops and sessions. The Regional Conferences generate enthusiasm for STEM education and careers via conference features like mini-career fairs, poster presentations, and engineering competitions.

Regional Conferences are typically held at college campuses hosted by the school's AISES Chapter. Many professional members participate as mentors and speakers, sharing their expertise and facilitating discussions that might follow an established theme or focus on an area like engineering or environmental science, or on crossovers between traditional ecological knowledge and western science.

The Regional Conference program illustrates how AISES is actively meeting the critical demand for

### **Canadian Conference**

The second annual .caISES gathering brought together Indigenous STEM (science, technology, engineering and math) students and professionals in the vibrant city of Calgary, Canada. This event was hosted at Mount Royal University and is organized under the leadership of the Mount Royal AISES Chapter and the Canadian Indigenous Advisory Council (CIAC) of AISES.

This event brought AISES' 40 years of Indigenous STEM learning and community-building experience

STEM workforce development. These conferences help individuals to explore new challenges in STEM disciplines and careers, where AISES graduate and professional members are in high demand.

AISES is identifying and building the crucial talent network that will fill future STEM jobs and create tomorrow's STEM-related enterprises.

Region 1	Portland State University (4/6-4/8)
Region 2	No event
Region 3	University of Arizona (4/13-4/14)
Region 4	Oklahoma State University (3/10)
Region 5	University of Minnesota-Morris (3/3-3/4)
Region 6	Rochester Institute of Technology (3/2-3/3)
Region 7	No event
.calSES	Mount Royal University (2/23-2/25)

to Canada. Students were given opportunities to explore undergraduate and graduate opportunities, discover career pathways, engage with Indigenous STEM professionals, and network with scholarshipgranting organizations and corporations looking to hire. STEM professionals and corporations had the opportunity to meet bright, accomplished young Indigenous peoples looking to establish a career in STEM.



#### 3M

A.T. Still University AARP AAVMC

#### Air Force Civilian Service

Alaska Native Tribal Health Consortium Alfred P. Sloan Foundation Amazon

#### American Chemical Society

American Indian College Fund American Indian Council of Architects and Engineers American Indian Graduate Center American Indian Program - New Mexico State University American Indian Science and **Engineering Society** America's Navy AMERIND Risk Arizona Indians Into Medicine Arizona State University Army Educational Outreach Program AT&T Be An Actuary Beckman Research Institute of City of Hope **Binghamton University SUNY BNSF** Railway Bonneville Power Administration **Booz Allen Hamilton Boston Scientific** Bureau of Indian Affairs Bureau of Land Mangement Cahilla Band of Indians

#### Carollo Engineers, Inc. Centers for Disease Control and Prevention Central Intelligence Agency Cherokee Nation Businesses

Cherokee Nation Human Resources **Chevron Corporation** Citizen Potawatomi Nation **Cleveland Clinic** College of Muscogee Nation Colorado Department of Transportation Colorado School of Mines - Graduate School Columbia University in the City of New York Columbia University Vagelos College of Physicians and Surgeons Comcast Cornell Engineering Dartmouth Geisel School of Medicine **Defense Contract Management Agency** Division of Energy and Mineral Development DoD SMART **Emma Bowen Foundation** ExxonMobil Exploration Company Facebook, Inc. Federal Aviation Administration Federal Reserve Bank of Dallas Fermi National Accelerator Laboratory Fiat Chrysler Automobiles Group Fred Hutchinson Cancer Research Center **GF** Aviation General Motors Geoscience Convergence Zone Gila River Indian Community Google Harvard Business School Harvard Native American Program Harvard T.H. Chan School of Public Health Haskell Environmental Research Studies Haskell Indian Nations University Howard Hughes Medical Institute

#### IBM

\*Partners in red generously sponsored the 2018 National Conference

Idaho National Laboratory Illinois Department of Transportation Indian Health Service - DSFC Indiana University **Intel Corporation** Intertribal Timber Council Jack Kent Cooke Foundation Jerome J. Lohr College of Engineering, South Dakota State University Jet Propulsion Laboratory Johns Hopkins Bloomberg School of Public Health Joint Institute for the Study of the Atmosphere and Ocean Keck Graduate Institute Lawrence Livermore National Laboratory LEIDOS Los Alamos National Laboratory Massachusetts Institute of Technology Mayo Clinic McGill University Merck Michigan State University Michigan Tech - School of Forest **Resources and Environmental Science** Microsoft **MITRE** Corporation Morehouse College - Summer Internships - Project Imhotep & PHLFP NASA NASA Wisconsin Space Grant Consortium National Academies of Sciences, **Engineering and Medicine** National Gem Consortium

- National Renewable Energy Laboratory
- National Science Foundation

National Security Agency

Navajo Nation Division of Natural Resources Navajo Technical University

Navajo Transitional Energy Company Navajo Tribal Utility Authority Navarro Research and Engineering

### Navy Civilian Careers

NC State, Women and Minority Engineering Programs New Mexico Tech

NextEra Energy

#### NexiLia Liferyy

NIH/Office of Intramural Training and Education NIST

#### NOAA

Northeastern State University - Tahlequah, OK Northeastern University Northrop Grumman Northwestern University NSF I-Corp Los Angeles Node

NYU Tandon School of Engineering Oak Ridge National Laboratory Office of Surface Mining Reclamation and Enforcement

#### Oklahoma State University

Oklahoma State University Center for Health Sciences

#### **Oracle Corporation**

Oregon Health and Science University OU Department of Geography and Environmental Sustainability

### Pala Band of Mission Indians Pauma Band of Luiseño Indians

#### Pechanga Band of Luiseño Indians

Penn State College of Medicine - Graduate Programs in the Biomedical Sciences Princeton University Graduate School Procter & Gamble Company Purdue University NAECC Raytheon Redlands Community College Rochester Institute of Technology San Diego Gas & Electric Company

Sandia National Labs

#### Sanford Research

Shakopee Mdewakanton Sioux Community SKC TREES Sloan Indigenous Graduate Partnership SNHU College of Engineering, Technology and Aeronautics Society of American Indian Government Employees Society of Hispanic Professional Engineers Society of Women Engineers Southeastern Oklahoma State University Native Institute Southern California Tribal Chairmen's Association

Standing Rock Sioux Tribe - Project LAUNCH Stanford School of Engineering Stevens Institute of Technology Summer Health Professions Education Program

### Sycuan Band of the Kumeyaay Nation

Symbiotic Aquaponic, LLC Teach For America Native Alliance Texas Department of Transportation The Association of American Medical Colleges

#### The Boeing Company

The Ohio State University's College of Engineering The University of Iowa The University of Oklahoma GCOE and MCEE Torres Martinez Desert Cahuilla Indians

#### Tribal Alliance of Sovereign Indian Nations

Tufts University Graduate School of Arts and Sciences and School of Engineering

#### Tule River Indian Tribe of California U.S. Secret Service U.S. Coast Guard Academy U.S. Department of Energy U.S. Department of State U.S. Geological Survey UC San Diego UCLA UCLA Health United National Indian Tribal Youth, Inc. United States Department of Agriculture Natural Resources Conservation Service University at Buffalo, School of Engineering and Applied Sciences

Engineering and Applied Science University of Arizona University of Arkansas College of Engineering

University of California, Berkeley -Office for Graduate Diversity

University of California, Davis - Graduate and Undergraduate Programs University of Cincinnati, College of Engineering & Applied Sciences, Office of Inclusive Excellence and Community Engagement University of Colorado Denver -Anschutz Medical Campus University of Denver University of Idaho University of Illinois at Chicago University of Kansas University of Maryland - A. James Clark School of Engineering University of Maryland Eastern Shore University of Minnesota University of Nebraska Medical Center University of Nebraska - Lincoln, **Chemistry Department** University of New Mexico Engineering University of North Dakota School of Medicine INMED University of Oklahoma Health Sciences Center University of Oklahoma/CIMMS University of Pittsburgh Swanson School of Engineering University of South Dakota University of Washington University of Wisconsin Law School University of Wisconsin - Madison Native American Center for Health Professions

University of California, Merced

#### U.S. Army Corps of Engineers

U.S. Forest Service U.S. Intelligence Community USC Viterbi School of Engineering U.S.D.A. Agricultural Research Service Vanderbilt University Video Gaming Technologies, Inc. Virginia Maryland College of Veterinary Medicine Virginia Tech, College of Engineering Washington State University Wells Fargo Winds of Change Media/ AISES Publishing Inc. Woodrow Wilson Academy of Teaching and Learning

Yale School of Forestry and Environmental Studies

Yale University Graduate School of Arts and Sciences

# **2018 AISES National Conference Sponsors**

### **Turquoise**

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### Coral

3M America's Navy

### Lapis

IBM NASA National Security Agency Raytheon U.S. Army Corps of Engineers USDA Natural Resources Conservation Service

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### **Native Circle Sponsors**

### **Sweetgrass**

Gila River Indian Community Torres-Martinez Desert Cahuilla Indians

### Sage

Amerind Risk Navajo Nation Division of Natural Resources Pala Band of Mission Indians Shakopee Mdewakanton Sioux Community Tule River Indian Tribe of California

### Cedar

Pauma Band of Luiseño Indians Pechanga Band of Luiseño Indians Southern California Tribal Chairmen's Association Sycuan Band of the Kumeyaay Nation Tribal Alliance of Sovereign Indian Nations

### Pinon

Cahuilla Band of Indians

Native Links Golf Classic Host Sponsor

Citizen Potawatomi Nation

Plenary Luncheon

Student Research Alfred P. Sloan Foundation

#### CIRES (Cooperative Institute for Research in Environmental Sciences) Jack Kent Cooke Foundation

**STEM Activity Day** The Boeing Company

hackAISES Event





### **Industry Tours**

Oklahoma State University University of Central Oklahoma University of Oklahoma & National Weather Center U.S. Air Force

### **Student Awards Luncheon**

Emma Bowen Foundation General Motors National Security Agency

### **College Session Track**

America's Navy

**Student Orientation** America's Navy

Social Media Booth AT&T

### **Networking Suite Sponsors**

3M National Security Agency National Science Foundation ICorp Navajo Transitional Energy Company Raytheon USDA – Natural Resource Conservation Service

### **Travel Scholarships**

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#### **Media Partners**

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# 2018 Tribal Nations Advisory Council Reception Sponsors

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# **2018 AISES Leadership Summit Sponsors**

### **Opal Sponsor**

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Airbnb Chevron USDA – Natural Resource Conservation Service

### **Aventurine**

America's Navy Emma Bowen Foundation Yocha Dehe Wintun Nation

### **Travel Scholarship**

San Manuel Band of Mission Indians USDA – Natural Resource Conservation Service



# **2018 AISES Pre-College Programs Sponsors**

#### NAIVSEF

**Intel Corporation** 

#### **Energy Challenge**

Office of Indian Energy and Economic Development – Division of Energy and Mineral Development

#### SPRKing Interest in Computer Science

General Motors Infosys Foundation Motorola Solutions Foundation Northrop Grumman Shakopee Mdewakanton Sioux Community Salt River

#### **Community Programs**

Cherokee Preservation Foundation Intel Corporation Meyer Memorial Trust U.S. Department of Education



# 2018 AWARD WINNERS

### **Professional of the Year**

AISES STEM Professional Awards recognize ingenuity and innovation among American Indian leaders in STEM and their achievements in industry, education or government. These individuals are role models who promote STEM awareness by highlighting educational pathways and careers while also supporting the AISES mission to increase STEM education and careers among North American Indigenous people.

The 2018 STEM professionals are talented scientists and engineers who excel in their respective fields, and who advance and enhance STEM learning and achievement. Each year, individuals are nominated for awards in four categories: executive excellence, technical excellence, most promising engineer or scientist, and blazing flame. These outstanding role models compete as finalists in the overall professional of the year category. All recipients are recognized at the AISES National Conference.

Please join us in congratulating these accomplished professionals. We thank all our members who participated in the nomination process, our awards selection panel, and our host academic institution (University of Chicago).

Professional of the Year - Dr. Naomi Lee (Seneca) Northern Arizona University

Blazing Flame – Deanna Burgart (Fond du Lac First Nation Saskatchewan) Indigenous Engineering Inclusion

Executive Excellence - Christopher J. Payne (Cherokee) The Boeing Company

Most Promising Engineer or Scientist – **Joshua John** (Navajo) Raytheon

Technical Excellence – Netlaya Francisco (Navajo) IBM

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

**Blazing Flame Award** – The Blazing Flame Award is presented to an individual who blazes a path for Indigenous people in STEM careers. This award recognizes individuals with 10 or more years of professional experience with significant accomplishments in advancing STEM education ad careers.

**Executive Excellence Award** – Executive Excellence nominees must be an experienced upper-level manger or a career-path engineer, scientist, professional or academician who has significant department and budget responsibilities.

**Most Promising Engineer or Scientist Award** – The Most Promising Engineer or Scientist nominee must be a professional engineer or scientist with less than five years' experience after earning his/her degree. The candidate's early technical contributions should already indicate a promising career.

**Technical Excellence Award** – The Technical Excellence nominee 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**

In 2018 the AISES Partner Service Awards were presented at the 2018 AISES National Conference closing banquet in Oklahoma City, Oklahoma. The individuals and organizations named in the seven Partner Service Award categories are recognized for their outstanding service to and promotion of AISES. They go above and beyond to support AISES' students, professionals, Board of Directors, and staff, as well as furthering the organization's mission.

- Tribal Partner Service Award: San Manuel Band of Mission Indians
- Foundation Partner Service Award: Jennifer
   Racho, Northwest Area Foundation
- Educator Partner Service Award: Gail Ishimoto, Kamehameha Schools
- Corporate Partner Service Award: Jotli Dilascio, BMM Testlabs

- Government Partner Service Award: Wylie Jones, National Security Agency
- Nonprofit Partner Service Award: Chris James, The National Center for American Indian Enterprise Development
- Special Service Award: **Cara A. Cowan Watts**, Tulsa Pier Drilling, LLC.
- Special Service Award: Brian Vermillion, ver5design (accepted by AISES)

### Energy Challenge Winners

The 2018 Energy Challenge winners are:

Individual Project: Jake Uyechi

Team Project: **Tre'ton Bybee, Omari Mitchell, Ciahna Oatman and Tamahsat Blackeagle** 

### **Science Fair Winners**

The 2018 National American Indian Virtual Science and Engineering Fair winners are:

Grand Award Winners Anna Quinlan and Kaylin McLiverty

Senior Division Winners First place – **Sky Harper** Second place – **Ethan Drouillard and Sam Brenner** Third place – **Jerome Henagin** 

Honorable Mention: March Ferriere and Elizabeth Strickland Junior Division Winners First place – Liam Puls Second place – Ava Cummings and Olivia Mir Third place – Mikaylee Henry Honorable Mention – Jerzey Parisien



### **Ely S. Parker Award**

Ely S. Parker walked in two worlds as a Chief of the Seneca Tribe, and a formidable leader in non-Native communities. In the 1850's he broke racial barriers, promoted tribal sovereignty, and advanced opportunities for American Indians as a lobbyist, decades before Congress granted citizenship to all American Indians born in the U.S under the 1924 Indian Citizenship Act.

The Ely S. Parker Award is the highest professional honor that AISES recognizes. Following the example of Ely S. Parker, the intent is to honor the achievements and performance of a leader who has forged an exemplary career in healthcare, education, or a STEM specialty.

Recipients are strong advocates for higher education, and they have a proven record of accomplishments throughout their careers. They are mentors, change agents, leaders, and outstanding professionals. Their contributions to diverse American Indian communities, and continuous support of American Indians in STEM studies and careers stand out among others.

The Ely S. Parker Award is given out annually. AISES holds a nomination process where individuals are judged by the AISES Board of Directors. The criteria for the Award include but are not limited to: contributions to STEM disciplines, ability to overcome obstacles facing minorities in his/her field, uniqueness and innovation, and scope and level of responsibilities in their roles.

### **History of AISES Ely S. Parker Award Winners**

	A.T. Anderson (Seneca), Engineering Phil Stevens (Oqlala	1994	<b>Dwight Gourneau</b> ( <i>Chippewa</i> ), Engineering/Physics	2003	<b>Carol Metcalf</b> <b>Gardipe</b> (Penobscot), Geology	2013	<b>Bessie Newman</b> <b>Spicer</b> ( <i>Navajo</i> ), Nursing
	Sioux), Engineering Mary G. Ross	1995	<b>Dr. Cliff Poodry</b> (Seneca), Biology	2004	Jerry Elliot (Osage/ Cherokee), Physics	2014	<b>Dr. Jason Younker</b> ( <i>Coquille</i> ), Educator
	(Cherokee), Mathematics/ Engineering	1996	<b>Dr. Fred Cooper</b> (Shoalwater Bay), Engineering	2005	<b>George Thomas</b> ( <i>Cherokee</i> ), Engineering	2015	<b>Dr. Bret Benally</b> <b>Thompson</b> (White Earth Band of Ojibwe),
1986	Al Qöyawayma (Hopi),	1997	<b>Dr. Jane Mt. Pleasant</b>	2006	No Awardee		Medicine
1987	Engineering <b>Phil Lane Sr.</b> (Yankton Sioux), Engineering	1000	(Tuscarora), Agronomy/ Soil Science	2007	<b>Governor Joe A.</b> <b>Garcia</b> (Ohkay	2016	Dr. Robin W. Kimmerer (Citizen Potawatomi Nation),
1988	<b>Don Ridley</b> (Shoshone),	1998	<b>Dick French</b> (Yakama), Forestry		Owingeh), Engineering		Educator
	Engineering	1999	Dr. Robert Megginson	2008		2017	Dr. Patricia Nez
1989	<b>Dr. Louis Steele</b> (Assiniboine), Medicine		(Lakota), Mathematics		(Oneida), Educator		<b>Henderson</b> ( <i>Navajo</i> ), Medicine
1990	Dr. George Blue	2000	<b>Dr. Jim May</b> (Cherokee),	2009	<b>Sandra Begay</b> (Navajo), Engineering	2018	<b>Cheryl McClellan</b> (Sac
	<b>Spruce</b> (Laguna/Ohkay Owingeh), Dentist		Engineering/ Business/Library Science	2010	<b>Dr. Robert Whitman</b> (Navajo), Engineering		and Fox), Engineering
	No Awardee	2001	Dr. Carolyn Elgin	2011	•		
1992	<b>Dr. Fred Begay</b> (Navajo), Physics	2001	(Choctaw), Educator		Pueblo), Educator		
1993	<b>Dr. Taylor Mackenzie</b> (Navajo), Medicine	2002	<b>Dr. Judith Kaur</b> ( <i>Choctaw/Cherokee</i> ), Medicine	2012	<b>Dr. Henrietta Mann</b> (Southern Cheyenne), Educator		

The 2018 award winner, Cheryl McClellan, is a supplier quality specialist with The Boeing Company. A Sac and Fox tribal member, McClellan has 35 years of professional experience. She plays an important role in the country's defense, whether educating Boeing parts suppliers on quality requirements of military aircraft or maintaining contractual requirements to support presidential aircraft. She graduated from the University of Oklahoma with a bachelor of science in engineering.



### National Conference Research Award Winners

In October 2018, AISES held its annual research competition with pre-college, undergraduate and graduate students. Oral and poster research presentations ran simultaneously during the College and Career Fair at the 2018 AISES National Conference. The research presentations are judged by STEM professionals, and winners were acknowledged during the Student Award Lunch

AISES research competitions provide opportunities for a deeper understanding of a topic or idea. Other benefits include increasing confidence to speak and present in front of an audience, developing new knowledge and different perspectives on a topic, peer learning, and more. Below are the 2018 National Conference Research Award winners.

### **Student Research Graduate Oral Presentations**

First place – **Ronalda Tsosie** Second place – **Nathan Nakatsuka** Third place – **Stephanie Cross** Honorable Mention – **Clark Rubel Student Research Undergraduate Oral Presentations** First place – **Serdjan Rolovic** Second place – **Roberta Walker** Third place – **Analise Gutherie** Honorable Mention – **Kimberly Blevins Student Research Graduate Poster Presentations** First place – **Donna Lee Kuehu** Second place – **Desirae Kissel** Third place – **Michelle LaGarde** 

Honorable Mention – Megan Dunn

## Student Research Undergraduate Poster Presentations

First place – **Jade Morning Sky Little** Second place – **Uriah Contreras** Third place – **Karlee Cooper** Honorable Mention – **McKalee Steen and Kimberly Hernandez Student Research Pre-College Poster Presentations** First place – **Nalani Miller** 

Second place – **Jake Uyechi** 

Third place - Destiny Max

Honorable Mention - Carina Tanaka



# 2018 CONVERSATIONS AND COLLABORATIONS

# 50k Coalition – 50,000 Diverse Engineers by 2025

AISES, in partnership with the National Society of Black Engineers (NSBE), the Society of Hispanic Professional Engineers (SHPE) and the Society of Women Engineers (SWE), the preeminent engineering professional societies focused on diversity and inclusion, and who collectively serve more than 75,000 pre-collegiate, collegiate, and professional members, formed the 50K Coalition. The Coalition is working toward a singular goal: to increase the annual number of engineering bachelor's degrees awarded to underrepresented minorities and women from 30,000 to 50,000 by 2025 – a 66% increase.

### American Indigenous Business Leaders (AIBL) – Growing Native STEM Business in the West

The mission of AIBL is to increase the representation of American Indians and Alaska Natives in business and entrepreneurial ventures through education and leadership development opportunities. In 2018, AIBL participated in AISES' Growing Native STEM Business in the West (funded by the Minority Business Development Agency and the Comcast Foundation).

### Comcast/NBC Universal – Public Service Announcements

In 2018, Comcast/NBC Universal provided AISES \$1.7 million in airtime for AISES' two Public Service Announcements (PSAs) originally developed and funded by Comcast in 2015. The PSAs highlight the importance of STEM education and career development for Native Americans. The PSAs will again run in 2019 in multiple markets on multiple channels and can also be viewed on the AISES website.

### IBM – Web User Experience Grant

In 2018, AISES was awarded an IBM Impact Grant to help evaluate the user experience of the primary AISES website to determine possible approaches to improving it. IBM consultants evaluated the effectiveness of the AISES website's branding, look and feel, navigation and content. A one-day workshop was held where IBM representatives presented their findings, best practices and comparisons of similar sites, and provided recommendations for improving targeted areas of the website.

### Intel – Native American Heritage Month

In celebration of Native American Heritage month, AISES CEO, Sarah EchoHawk, served as the keynote speaker at the Intel campus in Chandler, Arizona in November of 2018. Additionally, representatives from Intel, AISES, and the San Carlos Apache Tribe met at that time to discuss future collaborations to increase the involvement of Native Americans in STEM education.

### Kapor Center & Arizona State University -Women of Color in Computing Research Collaborative

This project aims to increase the number of women and girls of color pursuing and completing CS degrees, and participating in the tech workforce, entrepreneurship and venture capital. We aim to do this by conducting and disseminating research on (1) Data trends among women of color in computing education and career pathways, (2) Barriers to participation in computing among women of color, qand (3) Innovative and effective interventions and strategies to increase participation in computing among women of color. AISES CEO, Sarah EchoHawk, has served as a member of the Advisory Board since 2017. In 2018, Ms. EchoHawk was the closing keynote speaker for the Womxn of Color in Computing conference.

### National Girls Collaborative Project (NGCP)

The vision of the National Girls Collaborative Project (NGCP) is to bring together organizations throughout the United States that are committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM). AISES CEO, Sarah EchoHawk, serves on the NGCP Champions Board. Members of the board are selected to give a balance of desirable expertise and regional representation, including industry representatives, informal learning educators, gender equity experts, science, engineering, technology, and mathematics education representatives, and educational policy experts.

### National Native American Scholarship Providers Working Group (NNASPWG)

In 2017, AISES, along with the American Indian Graduate Center (AIGC), the American Indian College Fund, and Indigenous Education, Inc. (the Cobell Scholarship Fund), as the largest National Native Scholarship Providers in the Nation, formed this group to work collaboratively on policy, advocacy, data collection, and best practices in serving Native American students in Higher Education. In 2018, the group continued to meet to further develop its agenda including strategic planning slated to begin in 2019.

### **Native Americans in Philanthropy**

The mission of Native Americans in Philanthropy is to promote equitable and effective philanthropy in Native communities. Historically, Native Americans in Philanthropy has supported flagship program areas — educating philanthropy, enhancing Native nonprofit leadership, and investing in data and research — to drive philanthropic investments to achieve this vision. AISES CEO, Sarah EchoHawk, served as Vice Chair of the Board of Directors in 2018. As a non-profit orginazation, AISES directly benifits from this collaboration.

### **Native Ways Federation**

The Native Ways Federation (NWF) is a group of national, Native-led nonprofit organizations who joined together to increase the visibility and advocacy of Native organizations through a philanthropic lens. The NWF is comprised of the following members: American Indian College Fund, American Indian Science and Engineering Society, Association on American Indian Affairs, First Nations Development Institute, National Indian Child Welfare Association, Native American Rights Fund, and Running Strong for American Indian Youth. Established in 2006, NWF's mission is to activate informed giving to nonprofit organizations in Indian Country through donor education and advocacy. NWF's focus on donor education and advocacy, combined with helping donors understand the ethical environment around giving in Indian Country, fills a gap that has historically resulted in bringing more harm than good to Native people and communities as well as to the nonprofit organizations who serve them. In 2018, AISES CEO, Sarah EchoHawk, served as the chair of the organization's board of directors.

### **Northwest Area Foundation**

The mission of the Northwest Area Foundation is to support efforts by the people, organizations and communities of its' eight-state region to reduce poverty and achieve sustainable prosperity. The eight states include: Idaho, Iowa, Minnesota, Montana, North Dakota, Oregon, South Dakota, Washington and the 75 Native Nations that share the same geography. In 2017, the Foundation provided AISES with a \$250,000 two-year grant in support of AISES' workforce development programming.

### Population Council - Indigenous Adolescent Girls' Empowerment Network (IMAGEN)

AISES was one of the founding members of IMAGEN and is now working to find funding support to pilot our newly developed girlcentered STEM programming in both urban and reservation settings. Supported by the Population Council, IMAGEN seeks to equip Native-serving organizations with tools to reach and empower adolescent Native American girls through programs that are intentionally designed for girls instead of merely for young people more broadly.

### **URU - Changing Face of STEM**

AISES first collaborated with URU in 2016 and continued its partnership in 2018. URU – Changing the Face of STEM is a multifaceted, tailored approach to learning designed to encourage children to seek careers in STEM fields despite institutionalized lack of racial equity. This national education and engagement initiative offers a series of intensive hands-on workshops and customized programs. The curriculum draws content and inspiration from leaders in STEM fields with the goal to change the mindset of children from marginalized communities and their parents so that they can envision the wide-open possibilities for themselves. EXPANDING OPPORTUNITIES FOR AMERICAN INDIANS, ALASKA NATIVES, AND NATIVE HAWAIIANS

# ASS WINDS OF CHANGE

Winds of Change magazine consistently delivers content relevant to every segment of the AISES family. Students, professional members, retirees and our elders, as well as our sponsors and supporters, all look to Winds of Change for articles that are both interesting and informative. From inspiring profiles to member news and feature articles, each issue is a reliable resource that brings indigenous STEM students and professionals content that will help them realize their aspirations and advance on their career path. Selective advertising promotes products and services that serve a diverse base of readers, increasing awareness of promising trends and opportunities that are shaping STEM careers. Through a combination of print and digital publishing, Winds of Change reaches a growing audience. The digital version employs social media to deliver compelling content and promote advertising campaigns that effectively target specific demographics.

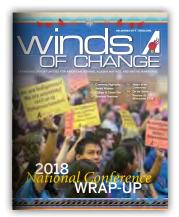
Winds of Change is designed to reach readers with articles that resonate with critical AISES constituencies. Every issue includes the CEO Welcome, AISES Notebook, AISES People, Career Builder, Paths in Education, Partner Index, and Last Word. Together these components draw readers closer to AISES, and forward our mission, by offering extraordinary stories **only** AISES can tell. Cover articles are an engaging "hook" that gets younger readers interested in and inspired by the possibilities that STEM education and careers can open for them. Behind the success of Winds of Change are the writers, editors, sales force, designers, advertisers, and others who creatively work together to build relationships with AISES and attract readers. Why STEM? That is the key question Winds of Change will continually work to answer in ways that inspire students, promote STEM careers, and address the current challenges of increasing diversity in STEM and promoting involvement with AISES. Ultimately, Winds of Change is dedicated to helping students and professionals succeed in doing what they love.











### SEQUOYAH FELLOWS

Sequoyah, a citizen of the Cherokee Nation developed the Cherokee syllabary in 1821. Sequoyah's writing system is comprised of 86 symbols representing all the syllables of the Cherokee language. Sequoyah's Syllabary built strong literacy skill among the Cherokee people that advanced reading and writing abilities and sparked the ingenuity and creation of laws, newspapers, and writings exclusively in the Cherokee language.

Sequoyah's innovation, inspiration, and impact are visible today. He has left a lasting legacy that is recognized by the lifetime AISES membership program called the Sequoyah Fellows. Fellows contribute to the growth and proficiency of AISES members in STEM fields that are vital in generating economic growth, advancing scientific innovation, and creating jobs. Today, there are over 1,300 Sequoyah Fellows who have made a leadership commitment to AISES.

### Sequoyah Fellow inducted in 2018 are:

Samantha Aguirre Duran Andrews Otter Aspen Patricia Bancroft Desiree Brazeau Dale Bushyhead Alanna Chee Marianita Chee Sami Chen Amanda Chief Jacob Conners Seth Darden Yvonne Deffenbaugh Houghton Brings Rain Demaray Jeri Dube Megan Dunn Nikki DuPuy Mark Fairbanks Selena Finley

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### **Annual Report Copywriters**

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